A Handbook
Of Orientation & Mobility:
Sighted Guide & Self Protection Techniques

This handbook was developed for the students in the Northern Illinois University:

EPSE 474: Basic Orientation and Mobility

EPSE 574: Advanced Orientation and Mobility

April, 1989 first printing

INTRODUCTION

This handbook has been prepared as a resource guide for students of Basic Orientation & Mobility and other professions in related fields to Blind Rehabilitation. It was developed to be used with a three ring notebook for easy up dating and additions.

The inspiration to develope this book came from reading What Where When: A Resourse Handbook for the Blind and Visually Impaired, Their Families and Friends, and the General Public by Gladys E. Loeb. Many thanks go to the Gladys E. Loeb Foundation for their cooperation and leadership in the field of blind rehabilitation.

Definition of terms that you should know
as they apply within the context of this book.

TERMS (of endearment)

Mobility terms

-- **Trailing:** The act of using the back of the fingers to follow lightly over a straight surface (e.g. wall, lockers, desks, tables, etc.) for one of the following reasons:

a) to determine one's place in space
b) to locate specific objectives
c) to get a parallel line of travel

-- **Direction Taking:** The act of getting a line or course from an object oR sound to better facilitate traveling in a straight line towards an objective.

-- **Direction Takers:** Refers to any straight lined objects whoses surfaces lines, when projected into space, will give a course or line of travel in a given direction or to an objective.

-- **Shoreline:** The border or edge of a sidewalk or grassline.

-- **Landmark:** Any familiar object, sound, odor, temperature, or tactual clue that is easily recognized and that has a known and exact, unchanging location in the environment.

-- **Run:** The term used to denote a course or route mapped out and traveled to a given point or objective -- as "a run down to the bakery."

-- **Sound Localization:** To determine the exact bearing or line of direction of the source of a sound.

-- **Squaring Off:** The act of aligning and positioning one's body in relation to an object, for the purpose of getting a line of direction and establishing a definite positon in the environment.

-- **Orientation:** The process of utilizing the remaining senses in establishing one's position and relationship to all other significant objects in one's environment.

-- **Mobility:** The term used to denote the ability to navigate from one's present fixed position to one's desired position in another part of the environment.

-- **Clue:** Any sound, odor, temperature, tactile stimulus, etc., affecting the senses and can be readily converted in determining one's position or a line of direction.

-- **Dominant Clue:** Of the maze of clues that are present, the one that most adequately fulfills all the information needs of the moment.

-- **Information Point:** A familiar object, sound, odor, temperature, or tactual clue, whose exact location in the environment is known but is more difficult to recognize or perceive than a landmark.

Vision Terms

-- **Accommodation:** The adjustment of the eye for seeing at different distances, accomplished by changing the shape of the lens through action of the ciliary muscle, thus focusing a clear image on the retina.

-- **Binocular Vision:** The ability to use both eyes simultaneously to focus on the same object and fuse each eye's input into a single image which gives a correct interpretation of solidity and position in space.

-- **Adaptation:** The ability of the retina and pupil to adjust to changing lighting conditions

-- **Depth Perception:** The ability to perceive the solidity of objects and their relative positions in space.

-- **Field of vision:** The entire area which can be seen without shifting the gaze.

-- **Jaeger Test:** A test for near vision; lines of reading matter printed in a series of various sizes of type.

-- **Near point accommodation:** The nearest point at which the eye can perceive an object distinctly. It varies according to the power of accommodation

-- **Near point of convergence:** The nearest single point at which binocular vision is attained.

-- **Night Blindness:** A condition in which the sight is good by day but deficient at night and in faint lighting

-- **Oculus Dexter (O.D.):** right eye

-- **Oculus Sinister (O.S.):** left eye

-- **Oculi Unitas (O.U.):** both eyes together

-- **Peripheral Vison:** Ability to perceive the presence, or motion, of objects outside of the direct line of vision

-- **Snellen Chart:** A test used for testing central distance visual acuity. It consists of lines of letters, numbers or symbols in graded sizes drawn to Snellen measurements. Each size is labeled with the distance at which it can be read by the normal eye. Most often used for testing vision at distance of 20 feet.

-- **Legal Blindness:** 20/200 or worse in the better eye, with best correction, or a field loss resulting in a visual field of less than 20 degrees.

-- **Visual Acuity (VA):** Ability of the eye to perceive the shape of objects in the line of vision, expressed as a fraction. (e.g. A/B, A = distance individual discriminates the form, B = the standardized distance the "normally" sighted individuals see the form.)
The Snellen chart is an example of what has been worked out to represent the standard 20/20.

-- **Visual Field:** The normal field is 180 degrees perioheral vision with both eyes; 140 degrees with one eye. Legal blindness is a field with less than 20 degrees.

-- **Macular Vision:** The central field of vision which provides the clear reading vison and color vision.

-- **Nystagmus:** Constant, involuntary movement of the eyeball. Movement may be in any direction.

Movement Terms

-- **Kinesiology:** The study of human motion. Specifically to Orientation & Mobility, it is the study of human motion as it relates primarily to posture & gait.

-- **Range of Motion (ROM):** The distance the joint moves. Limitations of motion of a joint inhibits the range through which a part can pass.

-- **Kinetics:** Study of those internal and external forces acting on the body to disrupt body equilibrium or return the body to a state of equilibrum.

-- **Kinematics:** Study of bodies in motion without reference to forces acting on them.

-- **Proprioception:** The internal awareness of posture, movement, changes in equilibrum, and the knowledge of position, weight, and resistance of objects in relation to the body.

-- **Abduction:** Movement away from the midline

-- **Adduction:** Movement towards the midline

-- **Anatomic Position:** The individual is erect with the elbows fully extended and the palms facing forward. The legs and feet are the same as in the fundamental standing position.

-- **Cardinal frontal or lateral plane:** The vertical plane passing through the body from side to side, dividing it in half.

-- **Cardinal Mid-Sagittal Plane** (Anteroposterior): A vertical plane passing through the body from front to back, dividing it in half

-- **Cardinal Transverse or Horizonal Plane:** A horizonal plane which passes through the body dividing it into upper and lower halves.

-- **Dorsal Flexion:** A forward-upward movement of the foot in the sagittal plane, so that the dorsal surface of the foot approaches the anterior surface of the leg.

-- **Eversion:** Abduction of the foot or a turning outward.

-- **Extension:** The return from flexion

-- **Flexion:** The angle at the joint diminishes. The movement at the shoulder is an exception

-- **Fundamental Standing Position:** The individual stands erect, either with the feet slightly separated and parallel or with the heels touching and the toes pointing slightly outward, the arms hanging easily at the sides, palms facing the body

-- **Hyperextension:** The continuation of extension beyond the starting (neutral position) point

-- **Inversion:** Adduction of the foot or a turning inward

-- **Kinesthetic sense** (muscular memory): Awarness sense by which muscular motion, weight, and position are perceived.

-- **Lateral:** Farther from the midline of the body.

-- **Lateral Flexion:** Refers to lateral bending of the head or trunk.

-- **Medial:** Relating to the middle or the center of the body.

-- **Plantar Flexion:** A forward-downward movement of the foot in the sagittal plane, so that the dorsal surface of the foot moves away from the anterior surface of the leg

-- **Pronation:** A rotary movement of the forearm so that the palm faces downward

-- **Rotation:** Rotary movement of a segment about its own longitudinal axis. In outward rotation the anterior aspect turns laterally; in inward rotation it turns medially. Outward and inward rotation of the forearm are called supination and pronation

-- **Supination:** Rotary movement of the forearm so that the palm faces upward

Sound Terms

-- **Compression:** That part of the sound disturbance which is due to an external force

-- **Rarefaction:** The removal of the force and the return of the molecules of the medium to (and past) the neutral postion.

-- **Intensity:** Related to the particle displacement, or distance the molecule in the Medium travels

-- **Amplitude:** The height of a sine wave from the starting point (base line) representing the particle intensity

-- **Frequency:** The number of compressions and rarefactions which take place within one second

-- **Phase:** The relative position of the sound wave at a given time in the cycle. Two sounds are said to be in phase with each other when the comparative compressions and rarefactions occur at the same time in the positive and negative directions. When two tones are out of phase and are of the same frequency and intensity, they cancel each other leaving an absence of sound!

-- **Conductive Hearing loss:** Hearing loss dysfunction in the outer or middle ear area which is a mechanical rather than sensory dysfunction.

-- **Sensori-Neural Hearing loss:** A loss located in the cochlea which is sensory in nature

Concept Terms

-- **Concept:** A mental representation, image, or idea of what something should be.

-- **Concrete concept attainment:** The ability to identify specific characteristic(s) of an object.

-- **Functional concept attainment:** To identify what the object does or what one does with the object.

-- **Abstract concept attainment:** The summarization of all major characteristics of the object.

Communication Terms

-- **Braille:** A system of printing and writing for the blind in which letters, numbers, and punctuation marks are made of raised dots (in cells of six) distinguishable by the fingers

-- **NLS:** The National Library Service for the Blind and Physically Handicapped, a part of the Library of Congress. The eligibility requirement is the inability to read standard print due to visual or physical impairment

-- **Talking Book:** A term, initially used for recorded materials developed and distributed by the National Library Service for the Blind and Physically Handicapped, now widely applied to most audio materials.

-- **Voice Indexing:** A term used for special indexing of talking books. To use the voice index feature, a 4-track cassette player, such as those distributed by the National Library Service for the Blind and Physically Handicapped, must be used. The text can be heard on track 1 at normal speed, and the index terms can be heard on track 3 at fast forward speed. The cassettes can also be played on regular half-track cassette recorders to listen to the text, but the voice index feature will not be operable.

Sighted Guide Techniques

Acknowledgements

I would like to express my gratitude and appreciation to the many persons and organizations that provided materials and copyright permission to make this collection on Sighted Guide Techniques possible:

Everett Hill and Pruvis Ponder for their contrabution from Orientation and Mobility Techniques: A Guide for the Practitioner

The American Foundation for the Blind, Inc. for granting their permission to reprint 50 copies of the section on Sighted Guide Techniques from the above stated manual.

The Minneapolis Society for the Blind for granting permission to copy materials from Caring for the Visually Impaired Older Person: A Practical Guide for Long Term Care Facilities and Related Agencies

To the Florida Department of Education (sole owner of publication) and the American Printing House for the Blind for granting permission to reprint materials from Volum V-H, Orientation and Mobility Resources Part 2: Training Manual

And to all the people not already named who provided support and encouragement to complete this project.

A RESOURCE MANUAL FOR THE
DEVELOPMENT AND EVALUATION
OF SPECIAL PROGRAMS
FOR EXCEPTIONAL STUDENTS

Volume V-H
Orientation and Mobility Resources
Part 2: Training Manual

Bureau of Education for Exceptional Students

State of Florida
Department of Education
Tallahassee, Florida
Ralph D. Turlington, Commissioner
Affirmative action/equal opportunity employer

Reprinted March 1986

MASTER COPY FOR OVERHEAD TRANSPARENCIES

SELF-PROTECTION

TRAILING

SIGHTED GUIDE

SEARCH PATTERNS

Illustrations reprinted with permission:

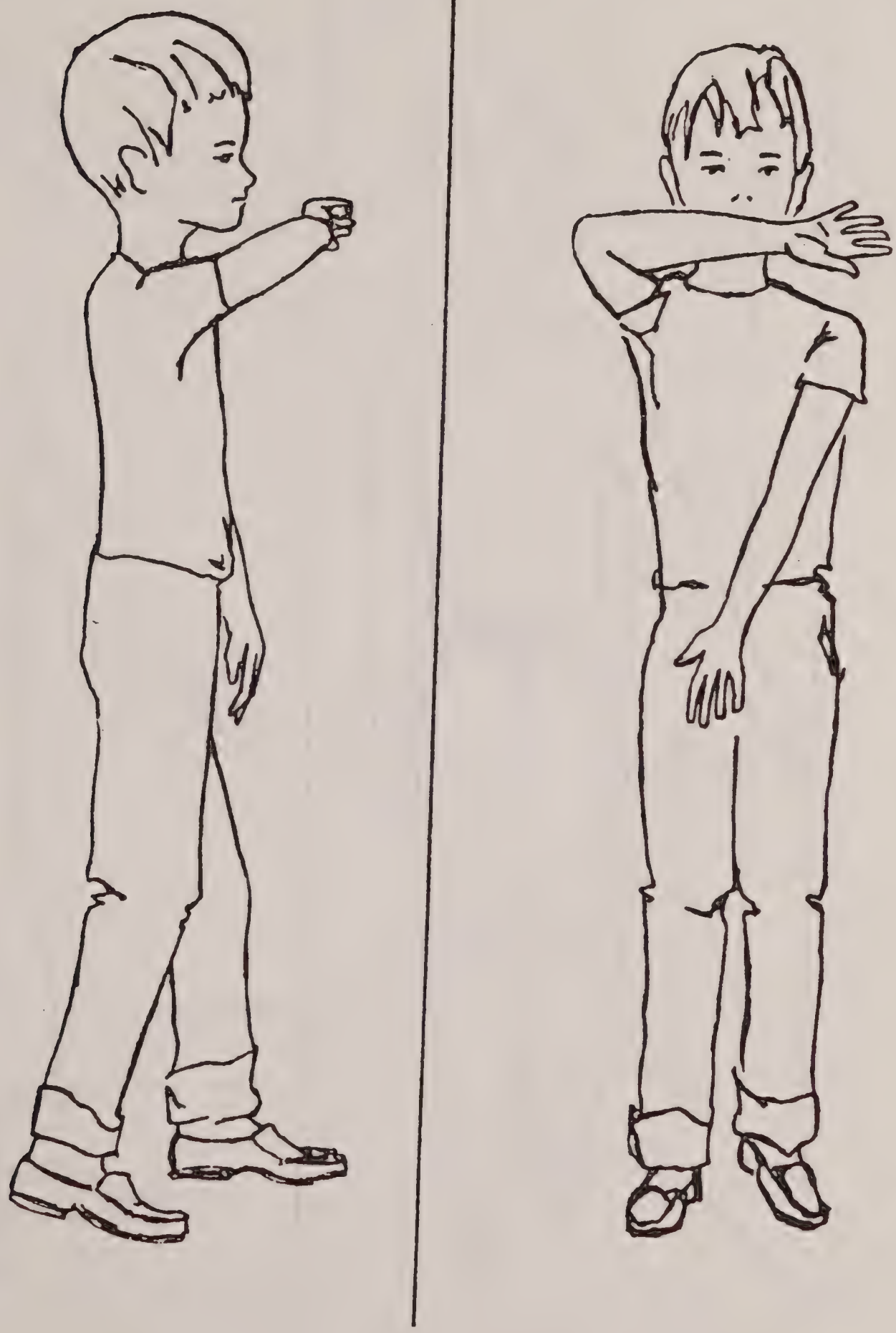
Napin, G., Kappan, D., Tuttle, D., Schrotberger, W., Dennison, A. (1974) Handbook for Teachers of the Visually Handicapped. Louisville: American Printing House for the Blind, Instructional Materials Resource Center.

Illustrations created by James Birsnehen and Linda Tetsell, Rocky Mountain Special Education Instructional Materials Center, Greeley, Colorado.

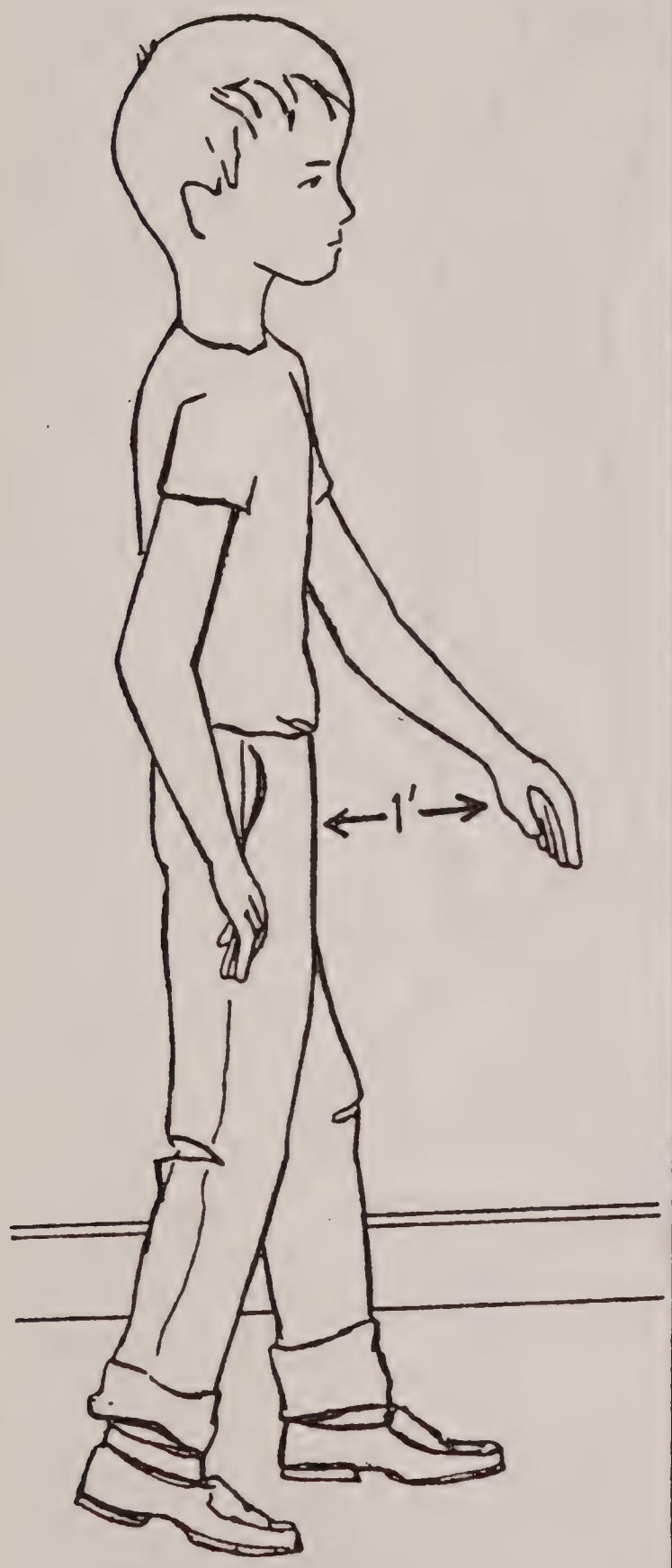
UPPER HAND AND FOREARM TECHNIQUE

LOWER HAND AND FOREARM TECHNIQUE

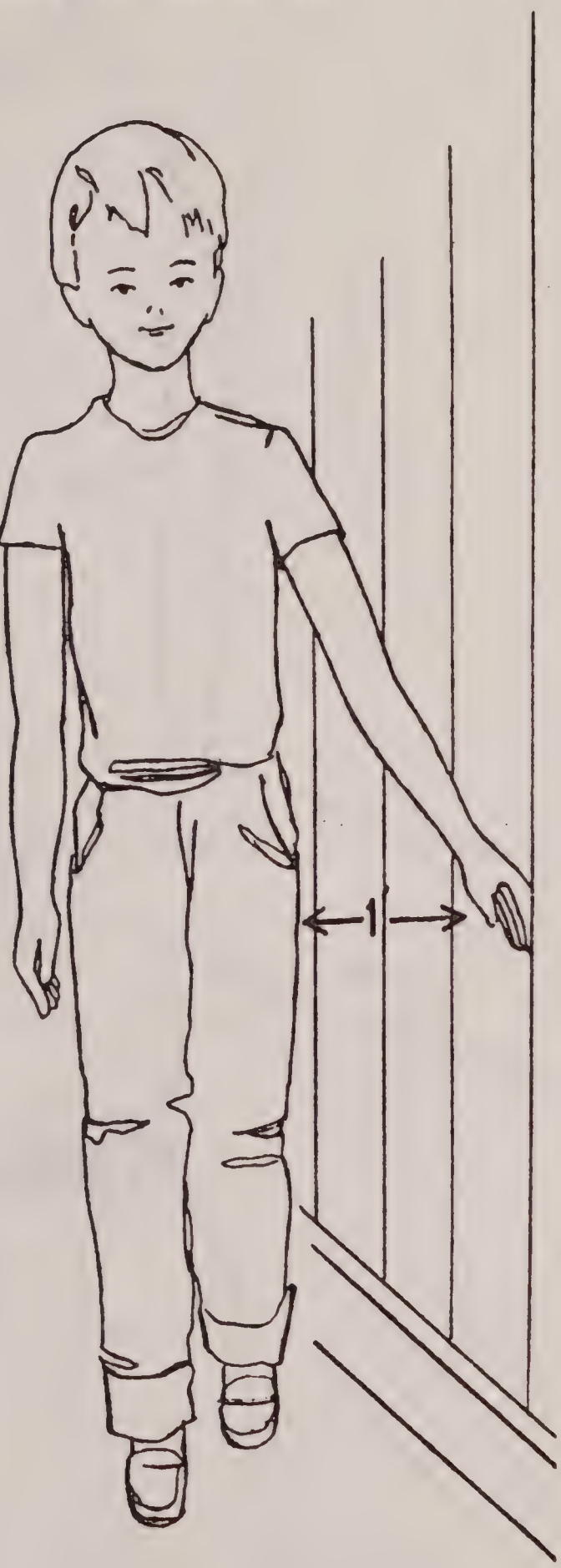
UPPER AND LOWER HAND AND FOREARM TECHNIQUES EMPLOYED TOGETHER



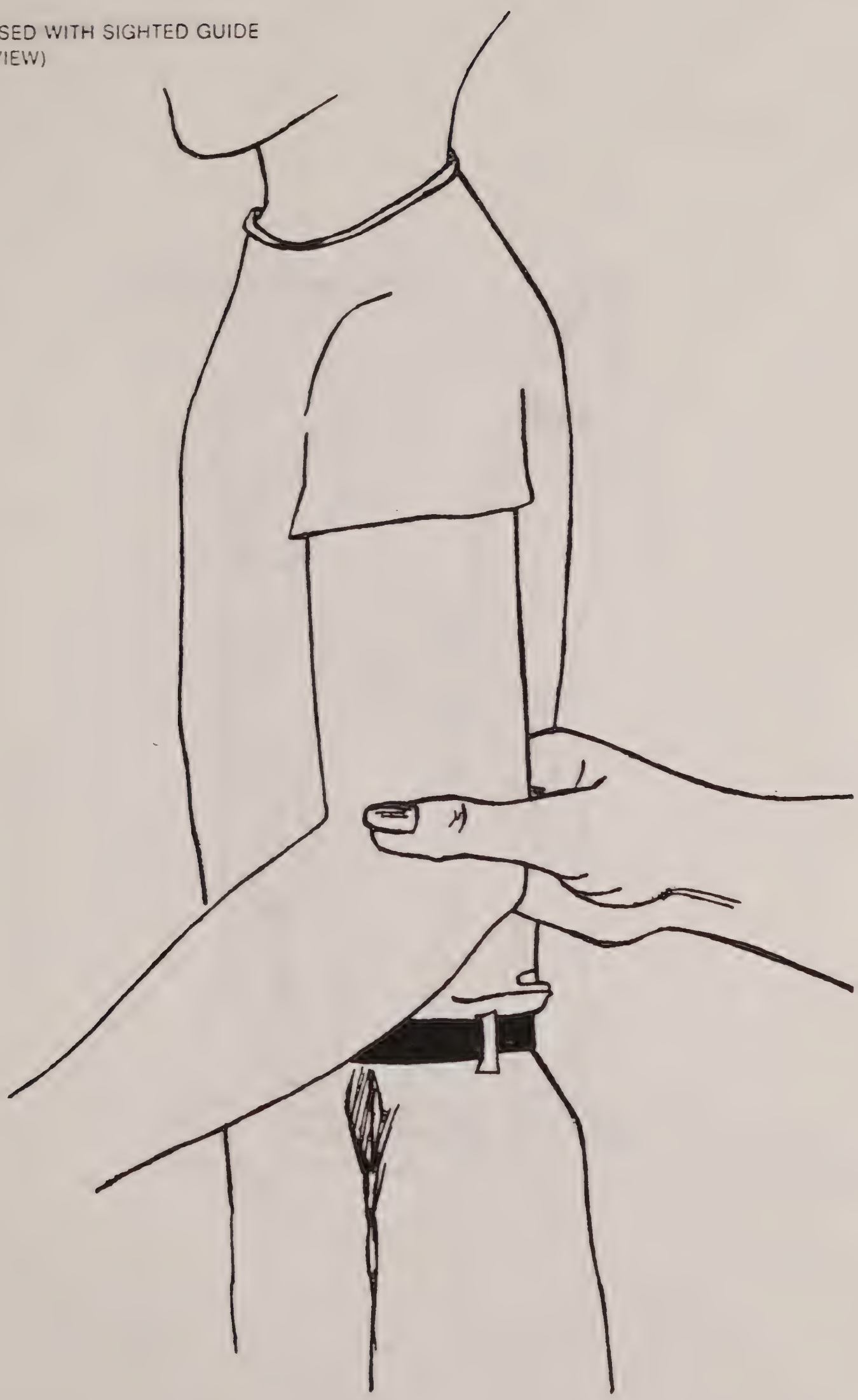
SIDE VIEW TRAILING WALL



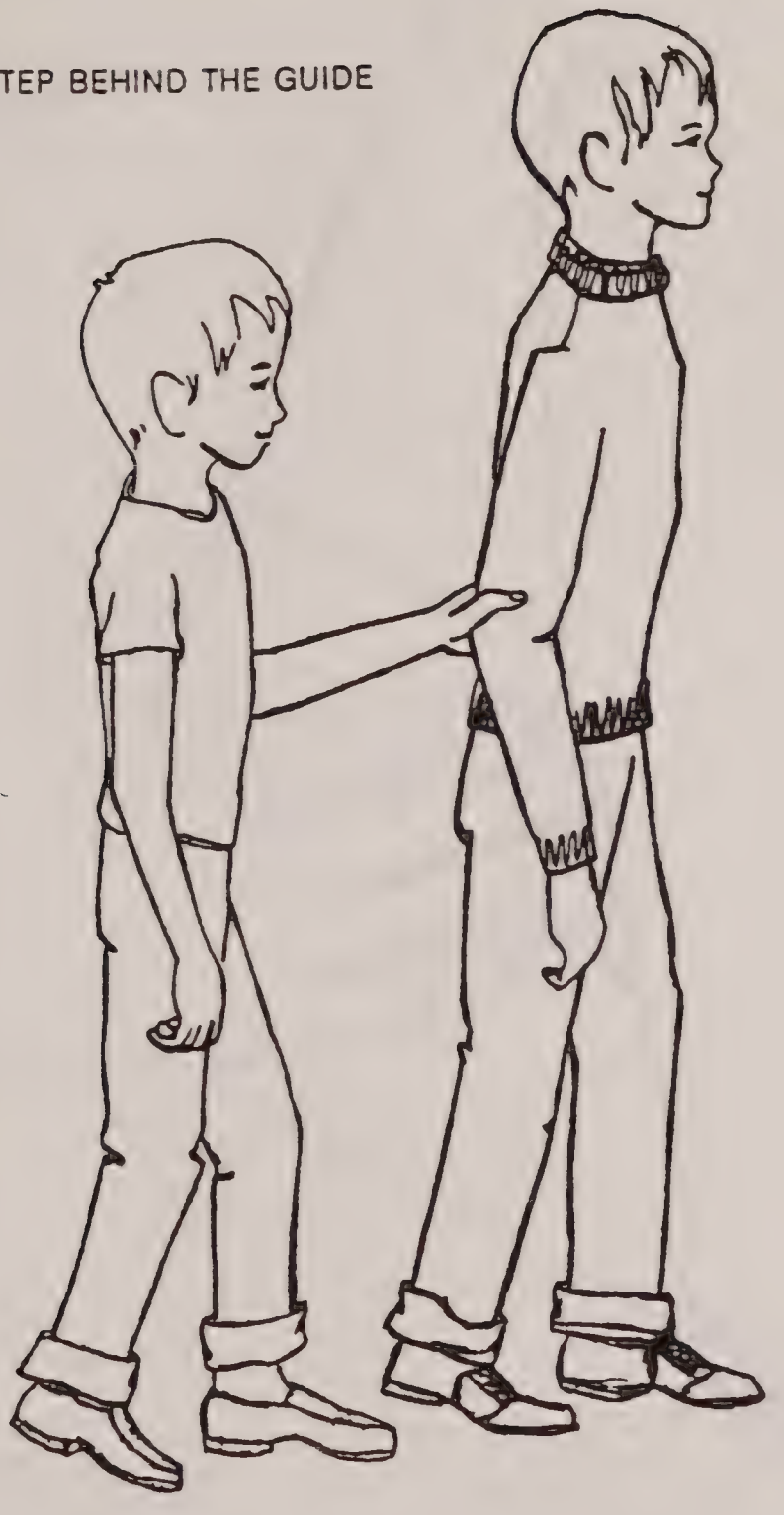
FRONT VIEW TRAILING WALL



GRIP USED WITH SIGHTED GUIDE
(SIDE VIEW)



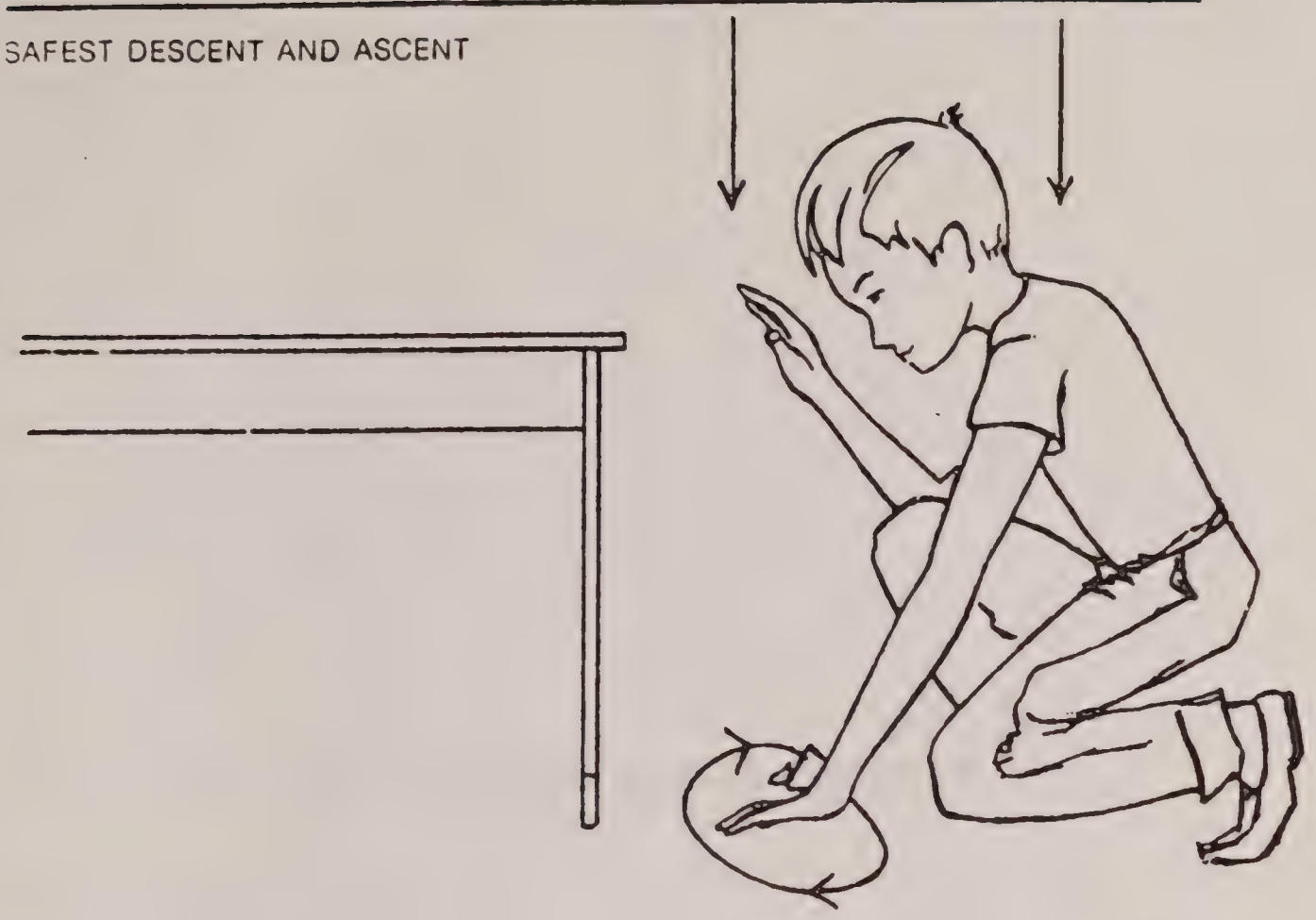
1/2 STEP BEHIND THE GUIDE



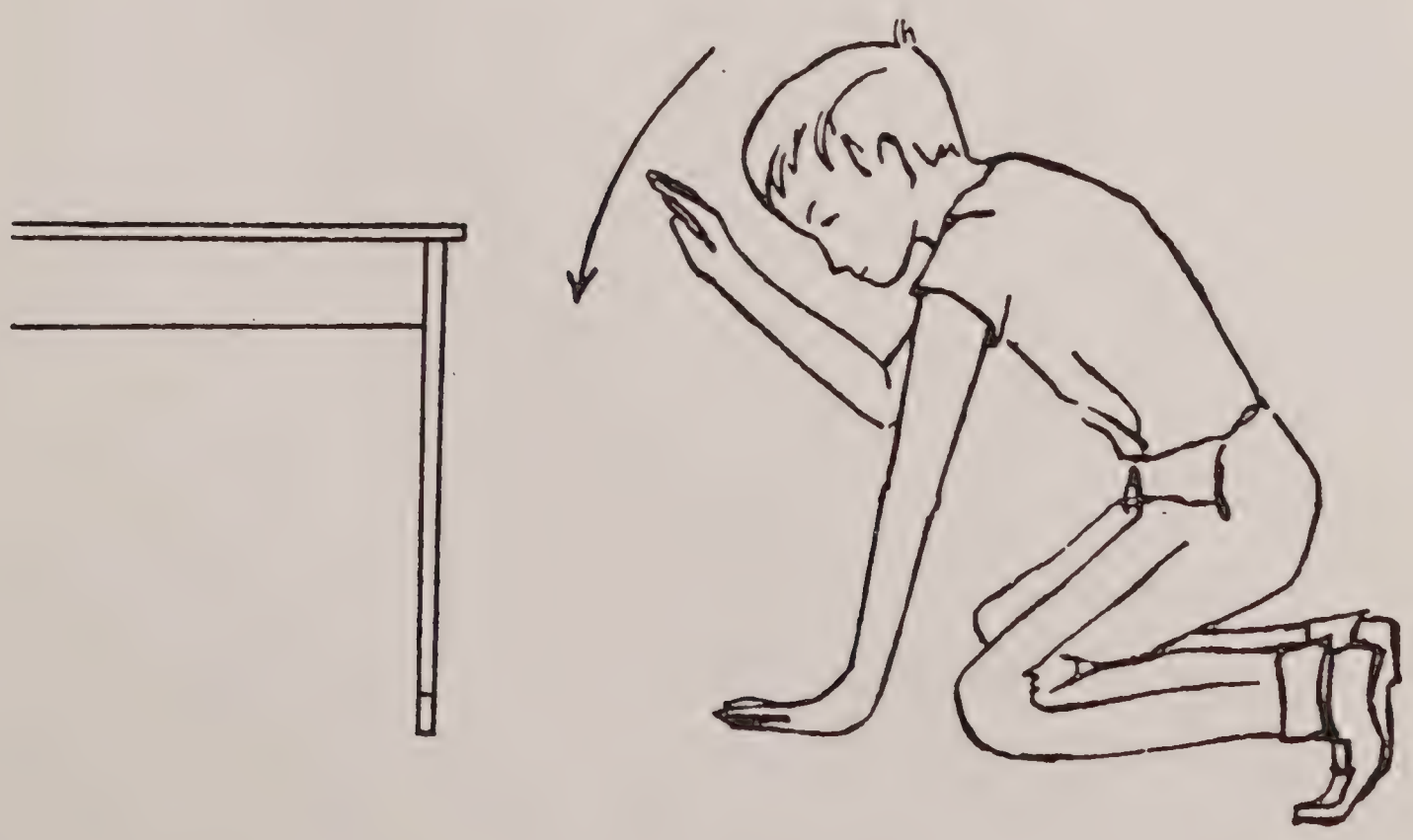
GRIP USED WITH SIGHTED GUIDE
(BACK VIEW)

LOCATING DROPPED OBJECTS

SAFEST DESCENT AND ASCENT



HAND PROTECTS HEAD WHILE BENDING



Sample Inservice Activity Evaluation

SAMPLE

INSERVICE ACTIVITY EVALUATION

(This form is to be used to evaluate the effectiveness of the workshop or activity as presented. This does not take the place of the evaluation of participant attainment of objectives required for credit to be awarded.)

WORKSHOP TITLE _____ DATE _____

COMPONENT NUMBER _____ OBJECTIVE(S) _____

CONSULTANT/FACILITATOR(S) _____

_____

_____

The most beneficial portion of the workshop for me was _____

_____

_____

I need more information on _____

_____

_____

_____

INSTRUCTIONAL/ADMINISTRATIVE	Not at all		Some what		Extreme-ly		N/A
1. Was this related to your needs?	1	2	3	4	5	6	____
2. Were the workshop objectives clear?	1	2	3	4	5	6	____
3. Was the presentation well done?	1	2	3	4	5	6	____
4. Were the activities/materials appropriate?	1	2	3	4	5	6	____
5. Was there practice and feedback?	1	2	3	4	5	6	____
6. Was time well spent on this activity?	1	2	3	4	5	6	____

7. How was your attainment of objectives assessed? _____

_____

8. Comments (especially items rated below 3) _____

_____

_____

_____

Section V

Orientation and Mobility Techniques

MOBILITY TECHNIQUES USED IN THE SCHOOL SETTING

In the school setting, techniques can be used by the visually impaired student that allows safe and efficient travel through the classroom and school environment without the use of mobility aids. This section provides descriptions and illustrations of these techniques. In addition, resources and materials are listed when appropriate that may aid the user in presenting the techniques to workshop participants.

Reference

Napin, G., Kappan, D., Tuttle, D., Schrotberger, W., Dennison, A. (1974) Handbook for Teachers of the Visually Handicapped. Louisville: American Printing House for the Blind, Instructional Materials Resource Center.

Illustrations created by James Brisnehen and Linda Tetsell, Rocky Mountain Special Education Instructional Materials Center, Greeley, Colorado.

Sighted Guide

Sighted guide techniques allow for fast and efficient travel. For this mode of travel to work most efficiently for the visually handicapped person as well as the guide, the guide needs to feel comfortable and the visually handicapped person trusts the guide.

To assume the proper grip, the visually handicapped person grasps the guide's arm just above the elbow after making initial contact. A distance of a one-half step is maintained between the guide and the visually handicapped person, while traveling. The grip is just firm enough to maintain contact. Information about the environment is communicated mainly through nonverbal gestures, when information is needed, the request is usually made in the realm of normal conversation.

Besides everyday travel patterns, sighted guide techniques have been developed for negotiating narrow passageways, doorways, stairways and seating. Procedures for transferring sides and accepting or refusing aid have also been refined in the technique.

Narrow Passageways

When approaching a passageway too narrow for the student and guide to pass through using the normal position, the student should notice when the guide moves his arm back and towards the midline of his body. In response, the student straightens his arm so he is a full step directly behind his guide. When the student can resume the basic position, the guide relaxes his arm.

Doorways

The pause and body movement of the guide will indicate the presence of a doorway to the student. The student should hold the door open when he contacts it and close it if necessary. Unfamiliar or unusual doorways may facilitate verbal information by the guide. Modifications will be necessary when the student is carrying objects.

Stairways

When ascending or descending stairs, the guide should approach the stairs at a right angle and pause at the first step. The student can then locate the beginning of the step with his foot and negotiate the stairway, remaining one step behind the sighted guide. The guide's arm levels off when reaching the landing or end of the staircase.

Seating

The guide positions the student in front of the chair in contact with the chair with the side of his leg. The student bends lightly at the knees and clears the chair by sweeping his hand from the front to the back and then turns back and seats himself. If the chair is approached from the rear, the guide merely places the student's hand on the back of the chair and allows him to seat himself. In both procedures, the guide gives appropriate verbal cues as necessary.

Another aspect of familiarization is establishing search or exploration patterns for dropped or misplaced objects. When an object is dropped, the student should turn toward the sound of the dropped object. Localizing on the sound, the student can move in the approximate direction. Lowering himeself to the floor, the student begins sweeping the floor with his hand in a circular spiralling pattern. The area immediately in front and to the side is explored first and the area searched becomes progressively larger till the object is found.

Knowledge of the room numbering system of a building enables a person to familiarize himself with the environment. Numbering usually follows somewhat of a logical order and specific room numbers can act as a point of reference in locating other rooms in a building.

Materials and Resources

Overhead Transparency: Familiarization . . . Section IV, pp. 131

Navigation

Navigating safely and successfully through the environment often depends on the ability to maintain a direction, being able to estimate time and distance and knowing compass directions. In direction training, the student aligns himself in a perpendicular or parallel position to an object that is straight ahead. In doing so the student projects a straight line from a fixed point of reference. The student can then move to his desired objective in a straight line of travel.

The ability to accurately judge distance and time allows a person to be precise in determining his position relative to a given object. To be more effective in his travels, the student relates time to the distance traveled. Instead of counting steps or doorways, the student can estimate distances on stairwells or hallways, a much more efficient means of travel.

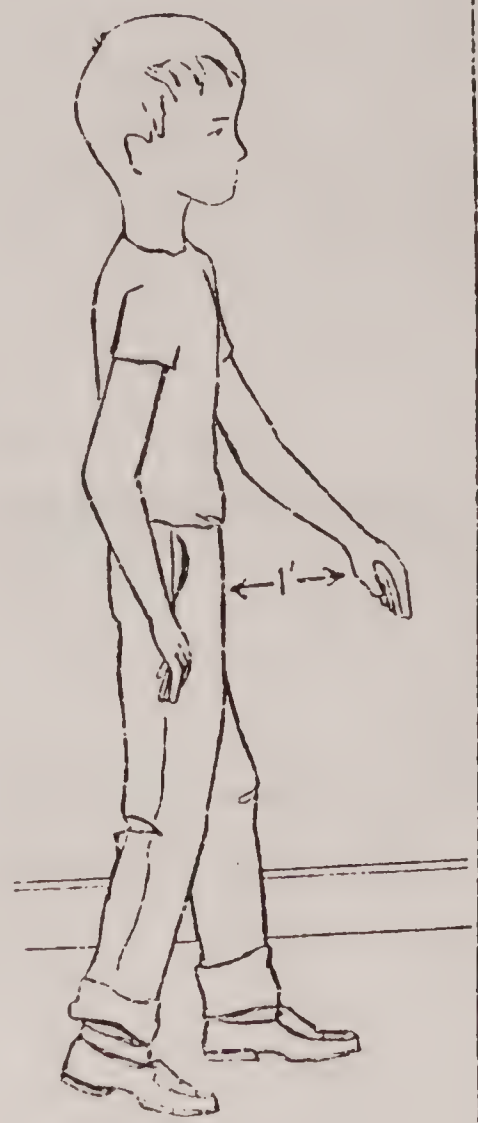
Compass directions are extremely important because the points of direction are constant and dependent on the student's body position as are the terms right and left. An understanding of compass directions are helpful in mentally mapping travel routes, understanding relationships between rooms in a building and in establishing his position in relation to his environment.

PROTECTIVE TECHNIQUES

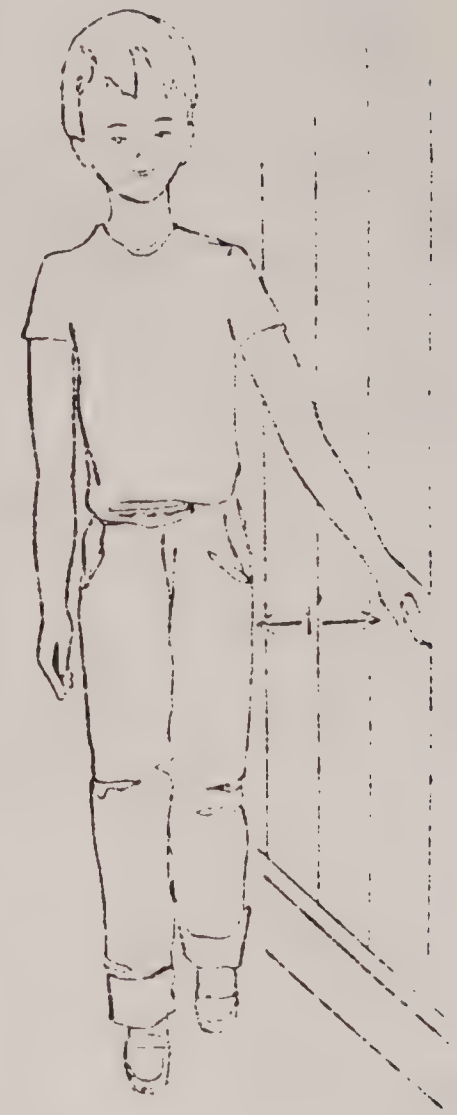
UPPER AND LOWER HAND AND FOREARM TECHNIQUES

TRAILING

SIDE VIEW TRAILING WALL



FRONT VIEW TRAILING WALL

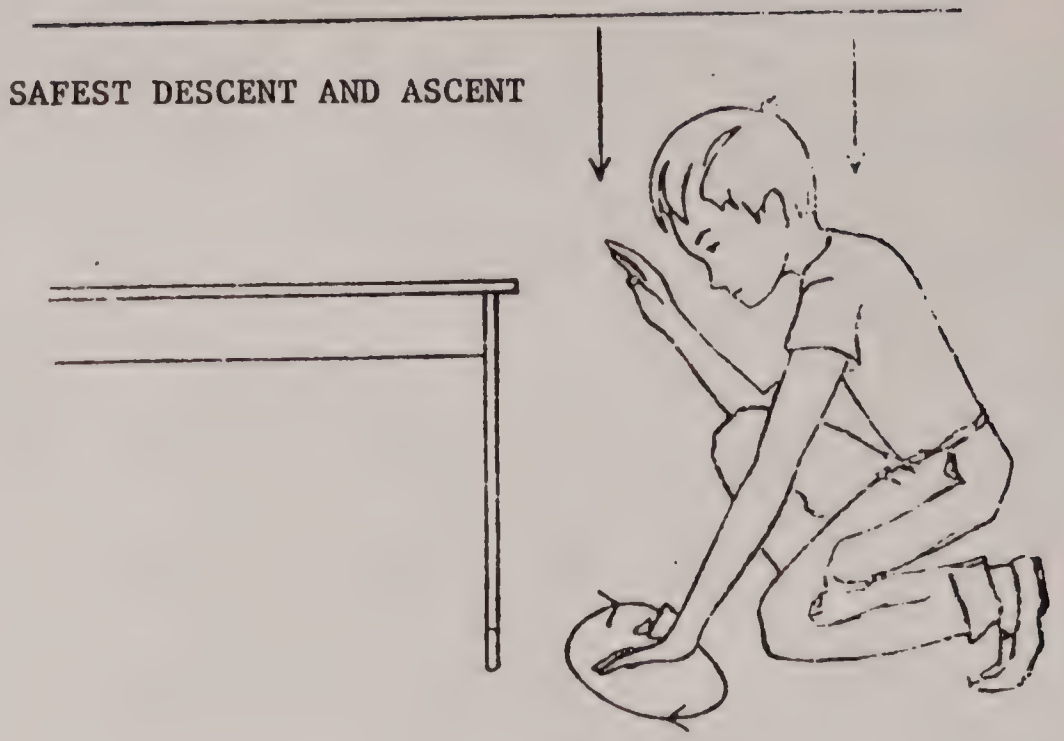


SIGHTED GUIDE TECHNIQUES

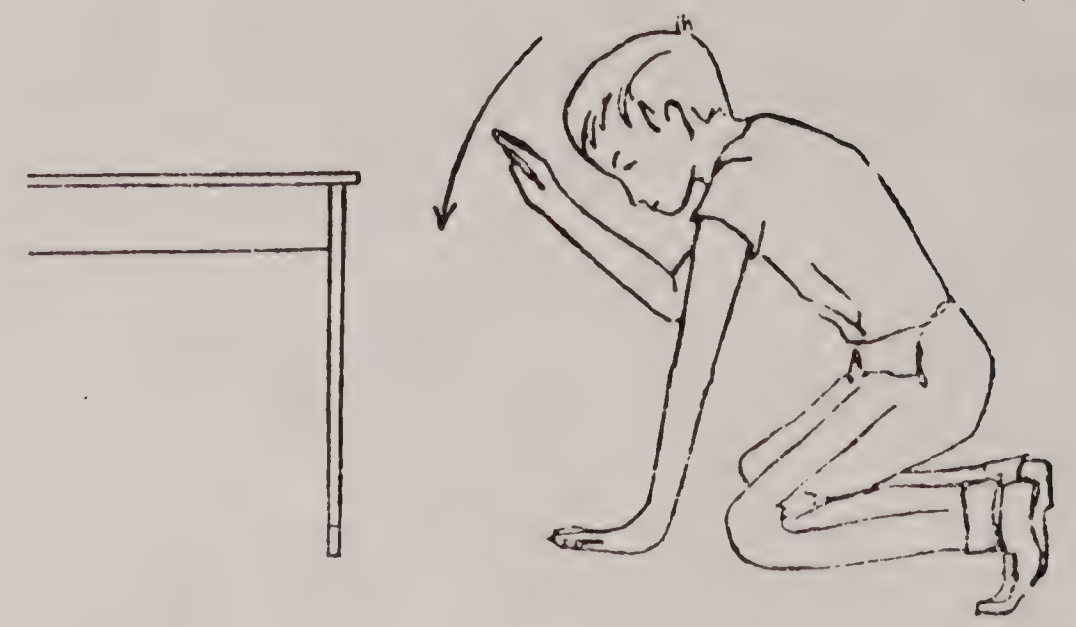
GRIP USED WITH SIGHTED GUIDE
(Back View)

LOCATING DROPPED OBJECTS

SAFEST DESCENT AND ASCENT



HAND PROTECTS HEAD WHILE BENDING



Long Cane

The long cane is used for protection, to probe the environment and identify a person as visually impaired. Proper use and correct techniques help the visually handicapped person to move freely and independently in known and unfamiliar surroundings. Appropriate use of the long cane is taught by an orientation and mobility specialist. The specialist is knowledgeable about the techniques and safety and the emotional well being as well as the ability of the student to travel.

Materials:

Film: The Long Cane . . . . . Section IV, pp. 63

Pamphlet: How Does a Blind Person Get Around . . . . . Section IV, pp. 163

Dog Guides

Dog Guides help in achieving independence for a visually impaired individual. Not all visually impaired people though can use a dog for mobility. Factors, when considering getting a dog are personal preference of the VI life circumstances and activity level, amount of remaining vision, orientation skills, skill level and health and physical condition. Before placing a dog guide, the agency must be reasonably assured the individual will benefit from it's program.

Prior to matching the dog to the visually impaired individual, the dogs receive special training from the time they are puppies. At about a year of age, the dogs begin intense street travel training; they are taught to stop at curbs and steps and avoid obstacles and move safely through traffic areas.

When the dog graduates from mobility training, he/she is placed with a visually handicapped person and continues for another 12 week training session. The dog and master begin to work together and much of the communication between them becomes nonverbal. All mobility lessons take place in the real world environment. The dogs are matched to the needs of each individual. The student is taught to work with the dog, discipline appropriately and keep the dog under control.

Materials:

Film: She'll Never Walk Alone . . . . . Section IV, pp. 64

Seeing Eye Guide Dogs . . . . . Section IV, pp. 64

Pamphlet: Dog Guides for the Blind . . . Section VI, pp. 163

The O/M Needs of the Exceptional Student (EMH, TMH)

O/M instruction for the sighted educable mentally handicapped (EMH) student or the sighted trainable mentally handicapped (TMH) student parallels the traditional instruction of O/M for the visually impaired student. The skill areas are not as comprehensive as with the visually impaired child but nevertheless just as important. The sighted EMH or TMH student is instructed in the areas of street travel safety, travel skills, and communication skills that relate to mobility.

The exceptional student that travels independently through the community may be described as using haphazard mobility. Often times the student is dependent upon other persons in the community to provide the transportation needs whether it be parents, friends, educational personnel or social service agencies. Parents may feel uneasy about their child traveling independently about the community and this too limits the student's mobility.

The exceptional student may have limited mobility skills which inhibits freedom of travel. The student may not assume the responsibility of his own travel needs either because such responsibility has never been afforded to him or was never instructed in mobility skills.

The exceptional student may have had some bus riding experiences. A specific route may have been memorized from home to a specific destination but has no other knowledge of the bus riding system. The bus riding experience may be one of trial and error. Mobility training in bus riding skills gives the exceptional student a structured logical approach to riding the bus. The student learns to identify local or familiar landmarks, solicit aid when necessary or seeks information for direction if disoriented or lost. Mobility instruction also looks to help the student handle emergency situations while traveling. The student begins to learn how to react in dangerous situations and develops an awareness for safety concern.

Resources and materials are listed when appropriate that may aid the user in presenting the techniques to workshop participates.

Safety Concerns

Instruction in safety is a vital part of O/M instruction for the exceptional student. Areas of Emergency Situations, Stranger Danger concerns and What Do You Do When You Get Lost are the main topics. In an emergency situation the student is instructed to remain calm and think before acting. Role playing situations are provided for the students so they may experience the situations and act accordingly.

A major concern in today's world is the danger of strangers approaching an exceptional student. In role playing situations and other games and activities the student becomes aware of how to react to an approaching stranger and techniques to avoid or ignore the stranger in an appropriate manner.

The student is given instruction on what to do if he/she becomes lost or disoriented. Using all the concerns above the student may seek aid from a trusting person (police or store merchant), use the telephone appropriately to solicit aid, and have a knowledge of information (I.D. cards) like home address, home telephone number and how to get in touch with a friend or relation.

Materials and Resources

Filmstrip: Life Skills . . . . . .Section IV, pp. 65

Bus Riding

The exceptional student is instructed in appropriate skills necessary to ride a bus. General information is afforded the student about riding the bus: bus information, boarding the bus, transfers, cost of the ride, traveling to a desired destination, etc. The student has experiences riding the bus, first in the company of an O/M instructor and later as the student becomes more competent by him/her self. Depending on the student's need and ability level the instruction can range from specific routes relevant to the student's needs or to generalization of bus travel skills to unfamiliar places.

Materials and Resources

Filmstrip: Life Skills . . . . . .Section IV, pp. 65
Worksheets: Transportation . . . . . .Section IV, pp. 65
Book: Using Transportation . . . . . .Section IV, pp. 65
Book: Travel Instruction for the Handicapped . . . . .Section VII, pp. 188

Section VI

Materials and Resources

Facts About Blindness

Myths About Blindness and Visual Impairments

Babies can see at birth.

We are born without antonnically developed eyes. Our vision at birth is by no means fully developed. Newborn babies see little more than the difference between light and dark. We all must learn to see, just as we learn to talk. The learning process takes place gradually between birth and age six.

Children should have their first eye examination when they enter the first grade.

Every child should have his/her eyes examined by a medical eye doctor by the age three. If no problems are noted, the next exam should be around age 6. If the physican does detect any problems that might interfere with the child's learning the difficulty may be corrected at the young age and let the child's vision develop normally.

If you cannot see well in the dark, you have night blindness, which is a common problem.

Night blindness is not all common. Night blindness is a symptom of an eye disease called retinitis pigmentosa. Most people have more trouble seeing at night simply because it is harder to see when there is less light.

You should eat carrots because they improve your ability to see in the dark.

Supplementing your diet with Vitamin A found in carrots will not necessarily improve your vision.

People who are color blind see only in black and white.

Color blind persons perceive colors less vividly than the normal seeing person. Their world is never monochromatic (all in degrees).

Cataracts can be surgically removed only when they are ripe.

Cataracts unlike a tomato does not ripen
Cataracts can remain stable or get progressively worse. Surgery is performed when the patients vision is so impaired that it interfers with activities of daily life.

You can tell if you have glaucoma because you will experience eye pain, see halos around lights, have excessive tearing, or your eyes will bother you in some other way.

One type of glaucoma is painful. The most common type however causes no pain at all and is usually without symptoms until the disease is far advanced.

Sitting too close to a television or movie screen is bad for your eyes.

You cannot injure your eyes in any way by sitting close to the television or movie screen. Sit wherever you feel the most comfortable.

If you read or do a lot of close work, you will ruin your eyes and make yourself need glasses.

Large print books do not enable all visually impaired persons to see better.

Many visually impaired persons are able to read regular size print books. The large print books enlarge the print on a page that allows for easier reading for persons with difficulty reading smaller type.

A dog guide knows where to go and how to get there without his master telling him so.

The dog is trained from a puppy to respond to traffic and street travel. The visually impaired person using a dog guide goes through extensive and intensive training. A bond is established between the dog and his master so little verbal commands have to be given for the dog to follow directions.

Brief History and Background of Orientation and Mobility

Orientation is knowing where you are relative to objects and the surrounding environment and where objects are in relation to each other. Mobility is the ability to move and travel freely through the home, school and the community with relative ease and self-confidence.

Orientation and mobility skills have existed since ancient time. In Biblical time, a shepherd's staff was used as a travel aid. Throughout ancient literature, a stick or a staff was described as aiding a blind person while traveling. Around 1931, The Lion's Club adopted the promotion of White Canes for the blind as a national program. The cane was short and wooden. Little or no instruction for orientation and mobility was given to the blind person at that time.

Formal mobility training with the long cane developed by Richard Hoover was initiated during World War II to help blinded veterans adjust to their new disability.

Mobility progress began at VA hospitals and as the years progressed extended to residential schools, day school programs and agencies. Prior to World War II, no formal orientation and mobility training was provided for VH students in residential or public schools or service agencies.

The need of competent mobility instructions increased around the country and university programs were developed at the graduate level to train people to become qualified specialists.

Today there are 12 university training programs around the country. Mobility specialists are now a common sight in residential schools, public day schools and service agencies that serve the VH student or client.

Pamphlets available from American Foundation for the Blind, 15 W. 16th Street, New York, New York 10011.

- What Do You Do When You See a Blind Person?
- How Does a Blind Person Get Around?
- Dog Guides for the Blind

Films

- What Do You Do When You Meet a Blind Person? — Section IV, pp. 63

Reading References:

- Blash & Welsh, Foundations of Orientation and Mobility — Section VII, pp. 187
- Laus, M. D. Travel Instruction for the Handicapped — Section VII, pp. 188
- Hill & Ponder, Orientation and Mobility Techniques — Section VII, pp. 187

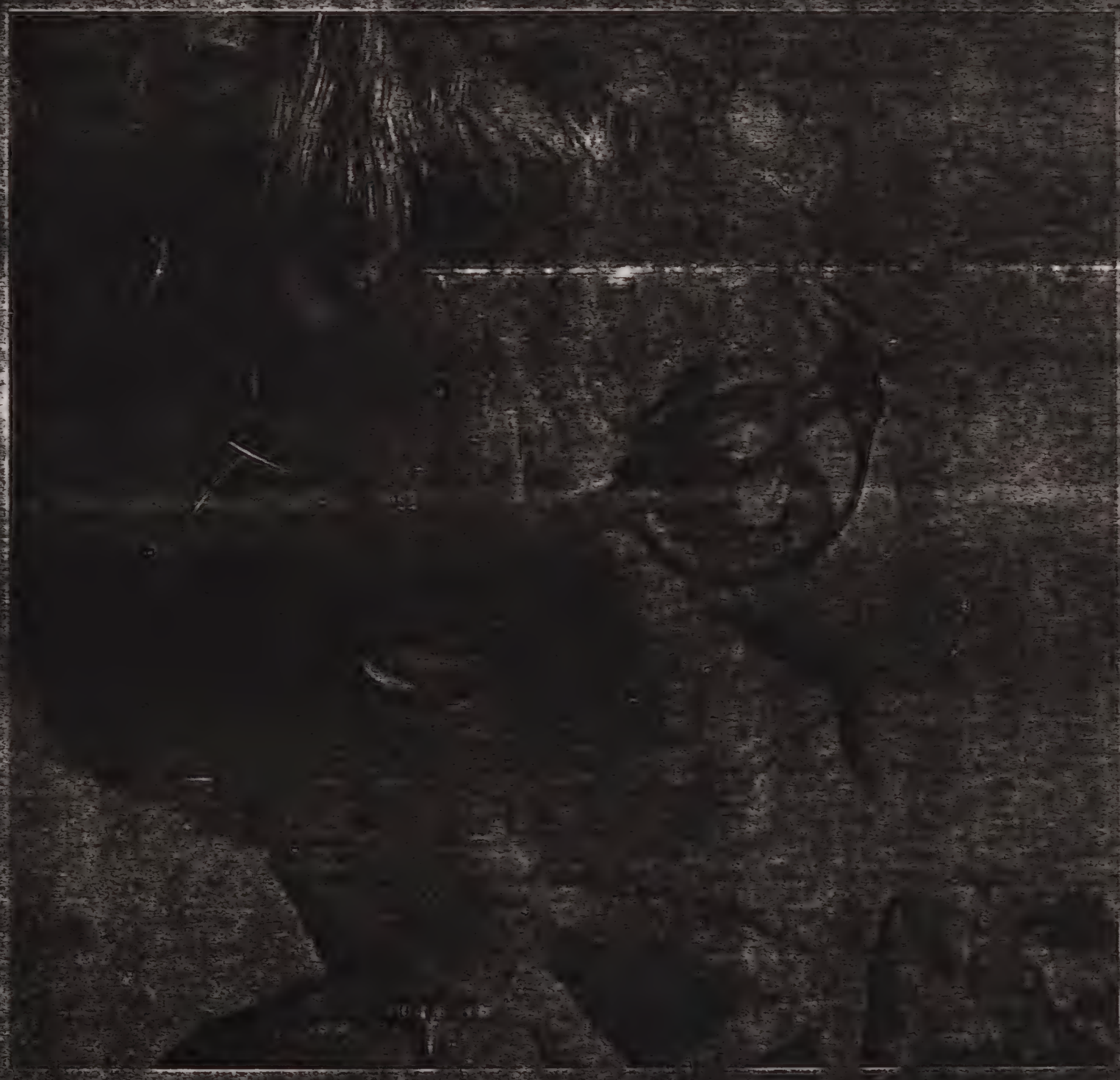
Dominant Clue	Of the maze of clues that are present, the one that most adequately fulfills all of the informational needs at that moment.
Run	The term used to denote a course or route mapped out and traveled to a destination.
Shore Line	A change of surface, usually the border or edge of a sidewalk or grassline.
Sound Localization	Determination of the exact bearing or line of direction of the source of a sound.
Squaring Off	The act of aligning and positioning one's body in relation to an object, for the purpose of getting a line of direction and establishing a definite position in the environment.

Handbook for Teachers of the Visually Handicapped
IMRC — Section VII, pp. 188

Orientation and Mobility Guidebook for Parents and Teachers of Visually Handicapped Students — Section VII, pp. 188

Caring for the visually impaired older person

a practical guide for long term care facilities and related agencies



mobility training

A program of mobility training should begin as soon as possible after admission of a visually impaired resident. Moving about in the home will provide much needed exercise that will help to maintain strength and good posture, stimulate circulation and metabolism and contribute to emotional well being. It will also bring access to valuable social interaction and mental stimulation that would otherwise be unavailable.

Unless they are prevented from doing so by a complicating disability, visually impaired residents should be required to walk. Guide them if they need it, but insist that they walk if they are physically able to do so.

Do **not** transport them in wheelchairs. This will only increase dependency and make future efforts at mobility even more difficult.

sighted guide technique

Guided travel is the first step in mobility training. Even if the new resident is capable of some independent travel, guiding will be necessary during his initial stages of orientation. Guided movement is also preferable when he is moving among groups of people and when he is taken to unfamiliar places. For some visually impaired residents with other complicating disabilities, guided travel may offer the only mobility possible, and thus may be the highest goal attainable in this area.

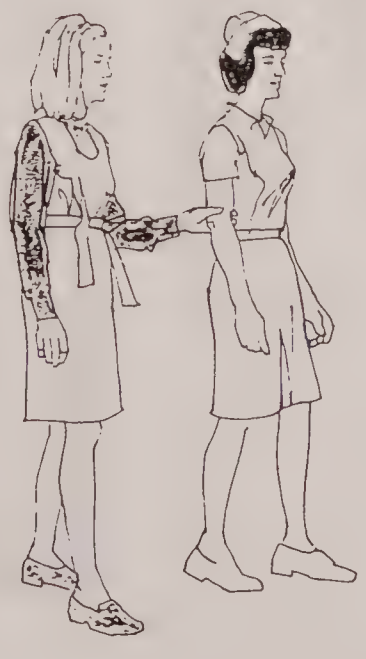
Staff members who will be guiding the blind resident should practice guiding with a partner wearing a blindfold, before they begin working with the resident.

In developing guided techniques, efficiency and appearance are important. But the most important consideration is **safety.** It is essential that you gain and maintain the complete confidence of your resident. While you are guiding him, his safety is entirely in your hands, and he will be acutely aware of it. Lack of confidence in you will seriously inhibit his ability to work with you.

Practice only one technique at a time. Short daily practices are best. Be sure your resident has mastered and is comfortable with each technique before you go on to another.

In teaching any mobility technique, remember that some variations may be necessary to adapt the procedures to the capabilities of the specific individual.

Specialized consultation in mobility training may be obtained from your local agency for the blind.



sighted guide technique (cont.)

1. making contact

The guide touches the back of the resident's hand with the back of his own hand, as a signal for the resident to take his arm.

2. grip

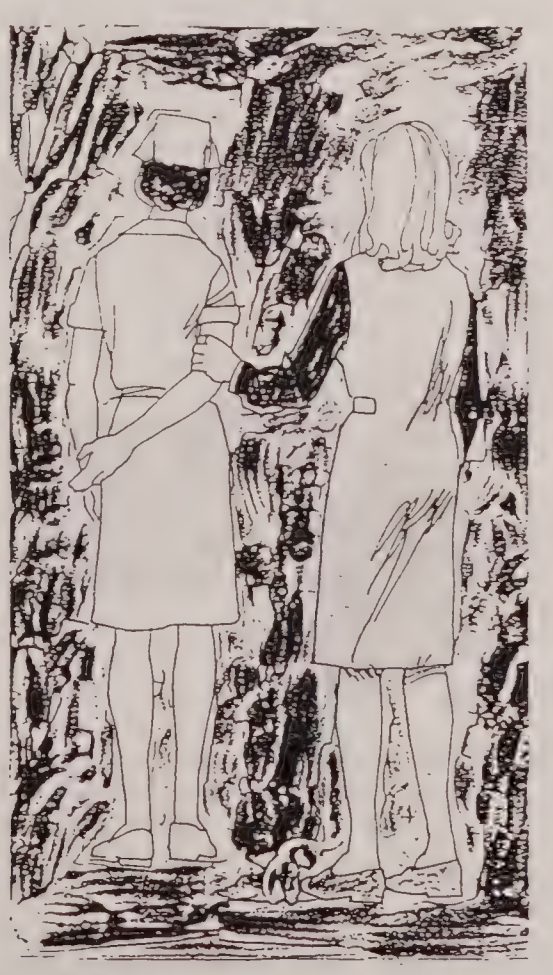
The resident takes the guide's arm just above the elbow, with four fingers on the inside of the arm, thumb on the outside. His grip must be firm enough for him to maintain it while walking, but not so tight as to cause discomfort to the guide.

3. stance

The guide holds his arm relaxed at his side. The resident's arm is also relaxed, with his elbow bent about 90 degrees, and held close to his side. The resident stands at the guide's side, about one-half pace behind. He holds the guide's left arm with his right hand; or the guide's right arm with his left hand. The resident's arm should not be too close to his body, which can become uncomfortable, or too far away, which would make the guide and guided person more than two abreast.

4. variation

An elderly person who needs more support, may grasp the guide's upper forearm from the inside. The guide then holds his arm closer to his body for additional support.



5. narrow passage technique

For use in narrow aisles, open doorways or other places where it is difficult to walk two abreast.

The guide begins the change in position, by moving his arm backward from its normal position and over toward the center of his back.

The resident responds by straightening out his arm and stepping over behind the guide so they are in single file, one full pace apart. The resident's arm must be held fully extended to prevent him from stepping on the guide's heels.

After leaving the narrow passageway, the guide returns his arm to its normal position at his side, and the resident responds by returning to his normal position.

6. switching (resident changing from one side of guide to other)

For use in opening doors (detailed later), at stairways, to move resident to handrail, or in any situation where changing sides is desirable. The change demonstrated here is from the guide's right side to the guide's left side.

When the guide verbally informs the resident of the need to switch,

the resident places the back of his right hand above his left, which is still on the guide's arm.

Then he drops his left hand and maintains contact with his right. With the back of his right hand, he follows across the guide's back, keeping his right arm fully ex-

tended, until he reaches the guide's left arm.

Moving to the guide's left side, he takes a new grip. At first, this can be practiced standing still, but eventually can be done while walking. To switch from left to right, reverse the procedure.

7. opening doors

The resident must be on the side toward which the doors opens (the same side as the hinges). If he is not, he must switch. The guide should say to the resident, "We're coming to a door. It opens toward us and to the left." The resident then knows he should be on the left side.

The guide takes the door knob with his right hand and opens the door about half way, then moves his left hand to the knob and drops his right.

The resident follows down the guide's left arm with his left hand (his free hand), until he reaches the door knob.

The guide then releases his hold and the resident holds the door until both have passed through. The resident then is in position to close the door.

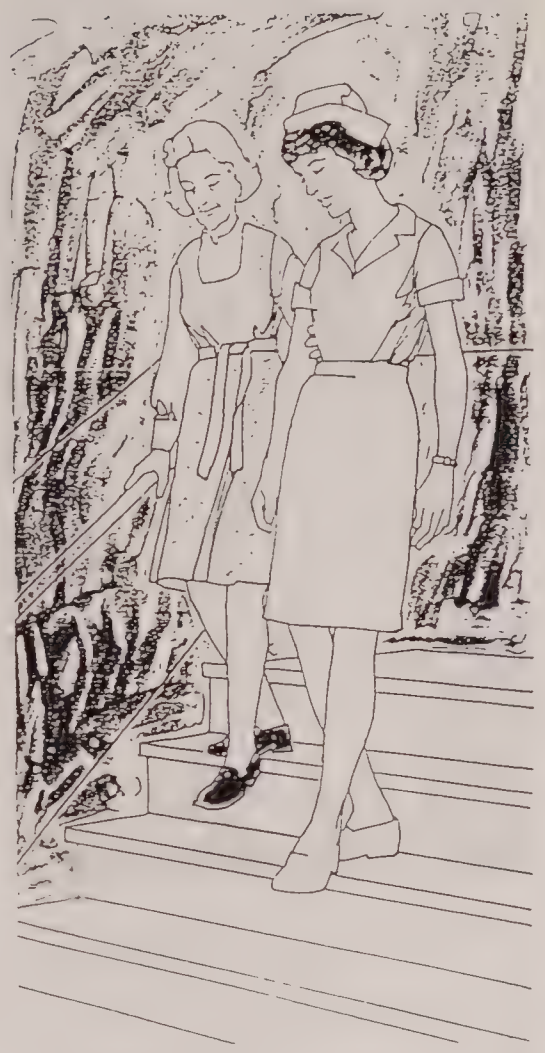
If the resident is weak, the guide can support the door with his free hand as they pass through. For doors opening away from you, the procedure is the same. For doors opening to the right, these directions should be reversed.

sighted guide technique (cont.)

8. stairs and curbs

The guide alerts the resident verbally that they are going to go up or down stairs. The guide always approaches stairs or curbs squarely . . . never at an angle . . . and stops as he reaches them. If necessary, he tells the resident to switch to the side with a handrail.

The resident takes hold of the handrail and the guide signals the resident to stand side by side with him. He does this by bringing his arm upward and forward until it is extended out in front of him.



The resident finds the first step with his toe. The guide steps down (or up) one step and both proceed together in rhythm.

The guide stops at the end of the stairs. This tells the resident that they have reached the bottom (or top). As long as necessary, he should also be told verbally.

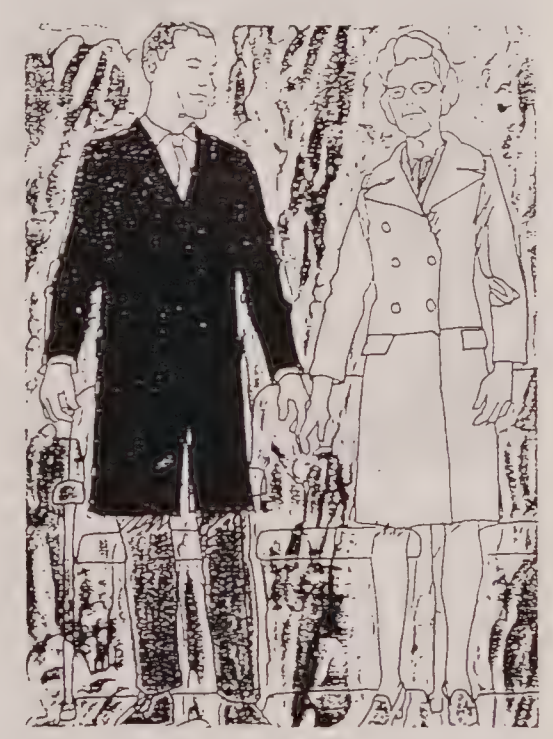
9. taking a seat

For use in a church, auditorium or theater where seats are aligned in rows.

The guide and the resident walk down the aisle two abreast. When they arrive at the designated row, the guide tells the resident verbally to stand side by side with him. Since the guide should lead going in (and coming out), it may also be necessary to tell the resident to switch sides.

Then they sidestep together along

the row, sliding feet sideways, flat along the floor. When the resident reaches his seat, the guide stops. The resident moves back until he feels the front of the seat against the back of his knees. He then "clears" the chair (makes sure there is nothing on it) by brushing the back and the seat with one hand, and sits down.



When it is time to leave, the guide stands up first and passes in front of the resident so that he is in position to lead out. Then he tells the resident to stand and makes contact. They sidestep out together until they are both in the aisle and the guide stops.

They break contact with each other and turn until they are facing the back. (It is best if they turn toward each other.) The guide then makes contact again and they walk out two abreast.

10. taking a seat

For use with a chair standing alone.

The guide brings the resident up to the front of the chair and places the resident's hand on the back of it. He tells the resident what type of seat it is . . . arm chair, bench, rocker, etc. The resident "clears" the chair (makes sure there is nothing on it) by brushing the back and the seat with one hand.

The resident then turns around, backs up until he feels the front

of the seat against the back of his knees and sits down.

When taking a seat in a chair without arms, a person who needs extra support in sitting down should back up to the side of the chair and place one hand on the back of the chair and one on the seat. This will provide added support as he sits down. This technique also gives added support in getting out of the chair.

4

11. guiding hints

When you approach any irregularity in the terrain, warn the resident in advance. This includes stepping from concrete to grass or linoleum to carpet.

When you are walking, if you must make sideways movements, alert the resident verbally and tell him why you are doing it.

If verbal description is necessary or seems desirable, give an honest report of what you are seeing. When you guide someone to a public assembly, be sure he knows and understands his location.

12. entering an automobile

When entering an automobile, a visually impaired person can engineer his own actions if you will tell him which direction the vehicle is facing, and help him place one hand on the door handle and one on the top corner of the door. After the door is opened, the person moves his hand from the top of the door to the roof of the car.

13. lost objects

When a visually impaired person is trying to find an object, give him verbal directions, carefully and precisely worded, or take his hand and place it on the object he is seeking.

A good guide is inconspicuous. He doesn't take over and run things on a trip. When someone speaks to a visually impaired person through the guide, the guide directs the conversation back to the visually impaired person by whatever means seem best. Usually, just a nod in the direction of the visually impaired person will suffice.

5

techniques for independent mobility

The ability to move about independently is of great significance to the self-image, independence and social opportunity of the aging person. Indoor mobility skills can be developed by many visually impaired residents with the techniques outlined in this section: trailing, squaring off, direction taking and route planning.

In addition, the visually impaired resident should be taught indoor mobility protective techniques to guard against unexpected obstacles. These include: upper body, lower body and diagonal cane technique.

Setting realistic mobility goals will require a careful assessment of each individual's potential. The

indoor protective techniques

These techniques can be used alone or in combination.

upper body protective technique

Either arm can be used. Here, the use of the right arm is demonstrated.

First, the resident raises his right arm to a position parallel to the floor.

Then, flexing his right elbow, he touches his left shoulder with his right hand, keeping his upper arm parallel to the floor.

The palm of his right hand is turned away from his body. Fingers are slightly flexed and relaxed. The wrist is in a midline position . . . neither flexed nor extended.

He moves his right arm away from his body, making a 135-degree angle at the elbow, while his right forearm and upper arm remain parallel to the floor. His hand must be kept forward of the elbow, so that the hand will always make first contact with unexpected obstacles.

(In some situations, the arm can be raised or lowered, but normally, should be kept at shoulder level.)

lower body protective technique

Either arm can be used. Here, the use of the right arm is demonstrated.

First, the resident points to his left toes with the fingers of his right hand. Then, keeping his elbow straight, he moves his right arm forward about six inches. The palm of his hand faces his body and his fingers are slightly flexed and relaxed.

(Bear in mind that there is a disadvantage in this technique, however, since the resident remains unprotected from the thighs down. This disadvantage is avoided in the following method.)

diagonal cane technique

Either arm can be used. Here the use of the right arm is demonstrated.

The resident places his right hand on top of the cane with the palm downward and the thumb pointing down the shaft toward the tip. The cane is held at about a forty-five degree angle with the tip of the cane one or two inches from the floor and at the left side of the body. The tip is also slightly forward of the hand holding the cane. The cane is held firmly in this position by extending the arm and holding it in a rigid position.

The position must be correctly maintained at all times while walking. Common errors to be avoided are these:

- Raising the tip more than two inches off the floor.
- Extending the tip only to the midline of the body instead of all the way across.
- Holding the cane vertically instead of diagonally.
- Allowing the cane tip to remain in constant contact with the floor.

resident must be physically capable of accomplishing the activity. His balance, endurance, steadiness and coordination must be adequate.

In order to learn the techniques, he must be mentally capable of understanding and retaining what is being taught.

In some cases, these criteria may indicate that only a minimal degree of independent mobility can be achieved. If so, this minimal level then becomes your teaching goal. It is essential that as much function as possible is retained in each individual.

Set small, attainable goals as you move along. Remember that each victory, however small, gives the resident a sense of accomplishment, greater confidence and increased self-respect.

The resident must learn these techniques only under supervised practice and should not be allowed to practice by himself until he can do so safely and with confidence.

He should apply these techniques only when he is in a familiar indoor environment, in which it is safe for him to travel. Remember that these techniques do **not** protect the person from drop-offs or stairs.

trailing

For use when following objects with long, straight lines, such as tables, rows of chairs, walls, etc. The hand nearest the object to be contacted should be used.

The resident begins with his right arm at his side. Then he moves his right arm forward about a foot, keeping his elbow straight but relaxed.

The palm of his right hand faces the object to be contacted. Fingers are curled slightly and relaxed. The fingernails maintain contact with the object, as the resident moves forward.

squaring off

This gives the visually impaired resident orientation for finding objects and/or proceeding on a predetermined path from a specific point.

The resident begins by standing against a familiar wall or other flat surface. His heels, buttocks, shoulders and palms are in contact with the wall. He faces straight ahead.

From this position, he moves forward in a straight line, using protective techniques.

direction taking

This enables a visually impaired person to maintain orientation and/or confirm his direction during travel, by using various objects (cues) in his environment. Any fairly stationary object with one straight side or edge may be used as a cue. By trailing along the object, the resident can establish his direction.

It is the staff's responsibility to increase the resident's awareness of these cues and teach him how to use them to determine direction and distance.

Doorways, windows, rug edges, stairs, large pieces of furniture or appliances, in fact, any large stationary object in the home can be a source of navigational information.

Each of these techniques can be used alone or in combination with others.

Always consider safety, first.

orientation for mobility

Independent mobility for the new blind resident requires a thorough orientation. Refer to the sections on orientation tours, page 10, and room familiarization, pages 9, 10. Provide the resident with plenty of landmarks and cues.

If the resident has difficulty remembering how to get to different places, teach him just one specific route to each destination. The potential hazards of each specific route will determine the protective techniques that need to be employed.

If an individual is unable to remember an entire route initially, it can be taught by "chaining" . . . teaching one section of the route at a time. The section nearest the goal is taught **first**, and the section from the starting point taught last. (In this way the resident always has the satisfaction of reaching his goal at the end.)

For example, let's say you want to teach a route **from** the resident's room **to** the dining room. And let's say you break the route into three sections . . . one from the resident's room to the nursing station . . . one from the nursing station to the TV room . . . and one from the TV room to the dining room.

First you would teach the last section of the route . . . from the TV room to the dining room. When the resident had mastered that, you would add the middle section to it . . . from the nursing station to the TV room. After he had learned both of those, you would add the first section . . . from the resident's room to the nursing station. Of course, you can break a route into as many parts as you feel are necessary.

stairs

You must be certain that the resident is so oriented and provided with cues that he can **always** tell when he is approaching stairways. Whether he uses them or not, he **must** know where they are so he cannot come upon them unexpectedly.

ORIENTATION AND MOBILITY TECHNIQUES

A GUIDE FOR THE PRACTITIONER

BY EVERETT HILL AND PURVIS PONDER

Introduction

The literature of orientation and mobility has largely been confined to the pre-cane domain and supportive areas such as concept development and sensory training. Most of the cane techniques and advanced orientation and mobility skills have never been published. Indeed, the question of whether or not an orientation and mobility text or manual of techniques should be published has been a subject of controversy within the field for several years.

Of greatest concern, perhaps, has been the possibility that persons without professional training might see such a publication as a book of "recipes" that would enable them to teach orientation and mobility techniques themselves. An additional concern is the difficulty created by the variances in methodology, philosophy and terminology that exist within the field.

The authors appreciate and share with other members of the orientation and mobility profession the concern that such a manual may be used inappropriately. But if the profession is to continue to grow and develop, we who are in it have a responsibility to document what we already know.

Furthermore, *Orientation and Mobility Techniques: A Guide for the Practitioner,* as the title indicates, is intended primarily for the practicing orientation and mobility specialist. Neither the terminology nor the ordering and format of skills is "sacred." This is a resource supplement for the practitioner, not a lesson sequence or curriculum guide.

This publication has a number of potential uses. In addition to serving as a resource for practicing mobility specialists, it should be of use to students in university training programs who usually have to develop their own orientation and mobility technique manuals. Classroom teachers, rehabilitation teachers and other professionals working with visually handicapped persons will find certain sections of the book (for example, the chapter on sighted guide techniques) particularly valuable. However, the practical application of these techniques should be conducted only under the direction of a qualified orientation and mobility specialist.

Orientation skills and mobility skills are treated separately in this volume. The interrelation of the two areas is fully recognized, but for analytical purposes they are discussed individually. Different formats are used for each, and an effort has been made to demonstrate the interrelatedness of the two areas in the sections on utilization, teaching and testing orientation, and general observations.

Orientation skills and mobility skills are so closely related that in order to be an efficient traveler, one must be proficient in both areas. Lowenfeld states that: "Mobility, which is the capacity or facility of movement, has two components. One is mental orientation and the other is physical locomotion. Mental organization has been defined as the ability of an individual to recognize his surroundings and their temporal or spatial relation to himself, and locomotion as the movement of an organism from place to place by means of its organic movement."

Orientation should be incorporated into mobility training from the beginning. Ideally, a student should progress from concrete understanding of orientational principles to a functional level, and finally into an abstract level, through which he is capable of functioning effectively in an unfamiliar environment.

The ultimate goal of orientation and mobility, then, is to enable the student to enter any environment, familiar or unfamiliar, and to function safely, efficiently, gracefully, and independently by utilizing a combination of these two skills.

It would be impossible in the context of this book to deal in any great depth with all the prerequisites for the orientation and mobility learning process. Nor is it the object of this document to analyze the cognitive, psychomotor, and affective functions that influence orientation and mobility. Visually handicapped persons must have certain skills prior to formal training, or learn them during the training process. The functional understanding and assimilation of prerequisite

skills by the student will influence his level of proficiency in orientation and mobility skills and ultimately the degree of independence acquired. The following is an overview of the prerequisite skills and variable influencing the orientation and mobility process:

Cognitive

A. Concept Development-Body imagery, nature of environment, spatial and temporal relationships
B. Divergent thinking
C. Problem solving
D. Decision making
E. Retention and transfer
F. Utilization of remaining senses

Psychomotor

A. Balance & coordination
B. Posture & Gait
C. Ability to walk a straight line and execute turns.
D. Dexterity
E. Stamina
F. Reaction time

Affective

A. Attitude
B. Motivation
C. Values
D. Self-confidence

Several sections of the book attempt to alert the instructor to the most common deficiencies and suggest what special precautions and/or modifications the instructor might exercise.

In considering the various categories of visually handicapped persons, such as children, the aged, the multiply handicapped, persons with low vision, etc., the instructor must be flexible enough to adapt or modify the skill to meet the student's individual needs. Personal characteristics such as age, onset of blindness, past experiences, amount of functional vision, prognosis, personality, physical condition, family and peer group relations are additional variables that may affect the acquisition of orientation and mobility skills.

As one reviews the analysis of the skills contained in this book, it is important to note that the skills are presented as a "standard." It performed correctly in the appropriate environment, they provide maximum protection to the visually handicapped person. Because of the variables mentioned previously, there will be times that the orientation and mobility specialist may have to modify certain skills to meet individual needs. However, it is critical that the instructor truly understand what is gained or lost in deviating from standard techniques.

Finally, the authors realize this book is not a final and definitive answer, but a step in documenting a body of knowledge. Growth and development must be ongoing in order to provide continuous orientation and mobility services of high quality to visually handicapped persons.

Orientation

General Definition

Orientation is the process of using the senses to establish one's position and relationship to all other significant objects in one's environment. For a blind individual, competency in developing an awareness of his surroundings is a result of concentration and practice over a period of training. Since research reveals that competency plays a key role in the person's psychological self-concept, this skill of orientation is essential to a visually handicapped individual who wishes to complement his mobility skills.

Purpose

Students who are beginning orientation and mobility training often have led very sheltered lives, and their exposure to various environmental situations has been quite limited.

The student who has a functional knowledge of the skills involved in orientation has the ability to relate to his environment in a more meaningful and realistic fashion as he moves, and thus can exercise some control over this environment. Without good orientation skills the student is moving into a void. Orientation gives meaning to the student's movement.

Prerequisites

Before attempting to orient himself within his environment the student must have a concept of self. This concept is referred to as body image—an awareness and knowledge of body parts, their movements and function. Next, the student must have a knowledge of the environment, and must be able to relate self to the environment. Finally, the student needs to be able to relate environment to environment, in a functional manner. The logical progression of cognitive awareness would be from the concrete to the abstract if this developmental sequence is followed.

Another area that must receive considerable emphasis is that of independent movement skills, i.e., straight line maintenance, turns, and dynamic posture. To use his orientation skills effectively, the student must be proficient in performing these basic movement behaviors.

The orientation process requires that the student be capable of integrating the sensory data that he receives from the environment into patterns of movement behaviors that achieve desired objectives. This requires the student to have highly developed sensory systems. Such development is possible only through a systematic and extensive training program, the foundation of which is the six components of orientation.

Mental and Physical Readiness Levels

Along with the various prerequisites to the orientation process there are basic readiness levels, both mentally and physically. For example, the instructor must consider if the student's mental level is such that he can utilize the cognitive process (see page 4). If mental retardation, brain damage, mental illness, or any other impairment affecting cognition is present, the student may not be capable of developing good independent orientation. The student's frustration level, tolerance level, attention span, concentration level and ability to use **abstracts** must be considered since problems in any one or combinations may cause problems in orientations.

The physical readiness level will also vary among students. Factors such as hearing problems, diabetes and the possible associated lack of sensitivity, etc., may affect the student's functioning, and therefore must be taken into consideration.

Principles

The three principles of orientation are:

1. Where am I?
2. Where is my objective?
3. How do I get there?

These questions require that the student know 1) where he is in space; 2) where the objective is in space; and 3) a way of ordering—exactly what he must do to get from his present place to his objective. The orientation skills to be discussed are necessary to answer these three questions posed by the principles. While answering these

questions, the student is going through a cognitive mental process.

Cognitive Process

The cognitive process is actually a cycle of five processes which the student uses while performing orientation skills. The steps interact, and any or all may be repeated each time the cognitive process is performed. The amount of time the cognitive process requires can vary. It is imperative that the student be capable of performing all steps in the cognitive process and integrating them while performing orientation skills. The five steps of the cognitive process are as follows:

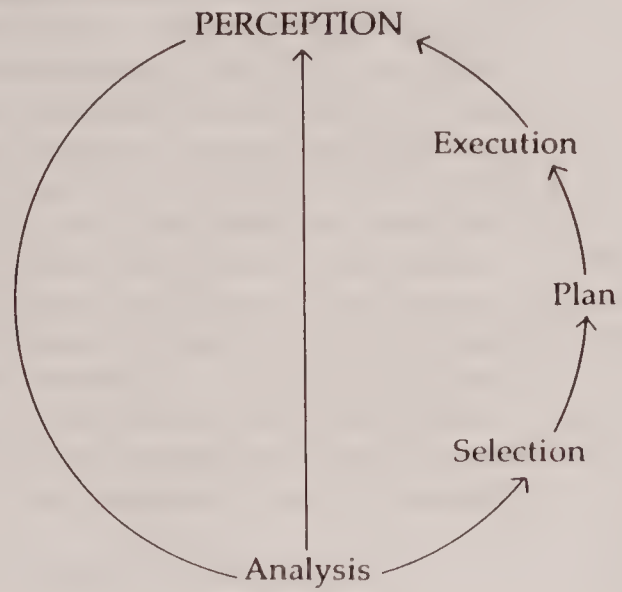
1. Perception: The process of assimilating data from the environment through the remaining senses, odors, sounds, tactual, kinesthetic perceptions, or change in brightness level.

2. Analysis: The process of organizing perceived data into categories according to consistency, dependability, familiarity, source, sensory type and intensity.

3. Selection: The process of choosing the analyzed data that best fulfills the orientation needs of the present environmental situation.

4. Plan: The process of designing a course of action based on the sensory data selected as most relevant to the present environmental situation.

5. Execution: The process of performing the planned course of action.



The above illustration shows the interaction of the five steps of the cognitive process. It will be noted that a commitment to action occurs at the point where the student has analyzed the sensory data and deemed it to be of some value for navigation purposes. Sensory data are constantly perceived by the student, but it is through the process of analysis that the student makes a decision as to its relevance; if the information when analyzed is found to be irrelevant, it is discarded and new data are then perceived an analyzed. Even if the student makes an error in the analysis process regarding the relevancy of sensory data, he has committed himself—he has made a selection, planned a course of actions, and executed it. It is only at the point of execution that he realizes his mistake.

The illustration and explanation above is the normal way in which sensory information is processed and acted upon. Deviations can and will occur; during the selection, planning, or execution stage the student may perceive new sensory data that will alter his strategy.

To utilize the cognitive process effectively, the student must have a functional understanding of the specific components of orientation, which are:

A. Landmarks
B. Clues
C. (1) Indoor Numbering Systems
   (2) Outdoor Numbering Systems
D. Measurement
E. Compass Directions
F. Self Familiarization (Special Lesson)

Format of Orientation Component Section

The pattern of organization in this section consists of five major topics or aspects of each skill, any of which may be modified to fit the explanatory needs of the particular skill under discussion. These topics are as follows:

1. **Definition,** including concrete and professional-theoretical explanations.
2. **Principles,** which are basic truths, concepts or themes concerning the skill.
3. **Prerequisites,** which, of course, are skills, knowledge (including concepts), and abilities in which the student should be competent before beginning the skill under discussion. Some of these are imperative, while others are highly preferable but not essential to learning the skill. The latter have been marked with an asterisk.
4. **Utilization,** including techniques and methods for applying the skill as well as actual benefits derived from the application, i.e. purposes and values.
5. **Teaching and testing,** which includes processes and techniques (including games) as well as phasing and sequencing. Teaching and testing have been combined because of the many overlapping principles and techniques involved.

A. Landmarks

1. Definition:

Any familiar object, sound, odor, temperature or tactual clue that is easily recognized, is constant, and that has a known, permanent location in the environment.

2. Principles:

Landmarks are constant and permanent.

A landmark's use is dependent upon knowledge of at least one direction or one object in the environment in relation to it.

A landmark has at least one unique characteristic to differentiate it from other objects in the environment.

Landmarks may be recognizable by their visual, tactual, olfactory, kinesthetic, or auditory characteristics or a combination thereof.

3. Prerequisites:
Sensory memory; concept of relativity of positions; awareness of basic spatial relationships; concept of moveable and fixed objects; distance awareness*; sound localization*; use of compass directions*; developed use of ability to execute systematic search patterns and identify distinguishable characteristics of objects that may be utilized as landmarks.

4. (a) Utilization—Purposes, Values, Specific Uses:
Landmark can be used:

1) to establish and maintain directional orientation;
2) as a reference point;
3) to establish and maintain distance relationships;
4) to locate specific objectives;
5) to orient or re-orient oneself to an area;
6) to use for perpendicular or parallel alignment for straight line travel;
7) to obtain information about a corresponding area, such as a floor above, using transferability of such landmarks as expansion joints or water fountains.

(b) Utilization—Techniques and Procedures:
Find a possible landmark, noting its general location. Determine its name or label, if it has one, or assign one to it. Determine its permanence. Find its recognizable characteristics and functional use, if any, by becoming familiar with it. Determine its directionality, e.g., "when my back is against this door, I am facing east." Determine whether it (or part of it) can be used for alignment for straight line travel/directionality. Find its distance and directional relationships to other significant things in the environment, including traffic sounds and exits. Utilize kinesthetic memory of distance to relocate landmarks and to transfer knowledge between corresponding areas.

*Prerequisite is preferable, but not essential.

5. Teaching and Testing: (See Utilization—Techniques and Procedures for how to establish a landmark)
To instruct the student in this skill, the instructor should take him to an easily discernible landmark, explain what a landmark is and how it is used, and tell the student the general location of that particular landmark in relation to his environment. He can then acquaint student with its relationship to other sensory information in that particular environment. Next, the instructor may use the following phasing sequence to firmly establish this and other landmarks in the student's mind. The student should:

1. familiarize himself with the landmark;
2. point to objects from the landmark;
3. verbally describe the route to specific objects from the landmark;
4. travel to those objects from the landmark;
5. point back to the landmark from the objects;
6. travel back to the landmark from each object;
7. point to the landmark from specific objects in the environment with known relationships to the landmark, having not started at the landmark;
8. travel to landmark (same conditions as #7);
9. travel between objects with known relationships to the landmark without returning to the landmark each time;
10. return to the landmark by alternate routes.

In addition or in place of the above procedure, the instructor may have the student locate a significant landmark, travel from it to locate distant objectives, and return to it. This should be repeated until the landmark's position relative to all significant objects in the environment has been established.

For the final test, the student should be taken to an unfamiliar area and should establish and utilize a landmark independently.

B. Clues

1. Definition:
A clue is any auditory (including object perception), olfactory, tactile (including temperature), kinesthetic, or visual (including color, brightness, and contrast) stimulus affecting the senses which can be readily converted to give the student information necessary to determine his position or a line of direction.

2. Principles:
A clue may be dynamic or stationary.

The functional use of a clue depends upon its familiarity and knowledge of its source.

Certain clues may be transferable from one environment to another.

(All stimuli do not have equal value as clues; some will most adequately fulfil the informational needs of the moment (dominant clues), some will be useful but to a lesser degree, and some will have negative value (masking sounds).)

3. Prerequisites:
Well-developed senses; sensory awareness, familiarity with common stimuli; *sound localization, identification and discrimination; *ability to interpret traffic patterns (pedestrian and vehicular); *distance awareness; *object perception; ability to interpret and/or identify stimuli.

4. (a) Utilization—Purposes, Values, Specific Uses
The ability to understand and use clues may be particularly valuable, as they are numerous and readily available. Some ways in which they may be of aid are:

to obtain directions;
to determine one's position in the environment;

*Prerequisite is preferable but not essential.

to maintain directional orientation;
to establish line of direction;
to aid forward projection into the environment;
to locate a specific objective;
to re-orient oneself to an environment;
to obtain information concerning the environment;
to obtain information about a corresponding area, such as a floor above, by using transferability of clues, (e.g., the sound of an elevator).

4. (b) Utilization—Techniques and Procedures:

When establishing and utilizing clues, one should:

Assess its relevance;
Decide what information it provides;
Identify the source of clue;
Evaluate the clue in the context of the environment;
Associate it with past experience;
Ascertain the dependability of the clue;
Know the relationship of the clue to oneself and one's objective.
Be aware of masking stimuli, i.e. sounds which block or distort relevant clues.
Be cognizant of present environment and know the types of clues that may be available.

5. Teaching and Testing:

To begin, the instructor should work on developing the student's skill in perceiving and interpreting environmental stimuli. Games and exercises may be employed here, such as "What Do You Hear?" In this game, the instructor places several students in an area and tells them to list every sound they hear within a given time period. The individual or team which has the most complete list wins. The instructor may give the student cards with a number of similar textures on them (one texture per card) and have him match them to a corresponding texture board.

The instructor should explain to student what clues are, their values and purposes, and how they may be used. To begin active teaching, the instructor should structure the environment so the student receives single, obvious clues, easily interpreted, without distractions. Gradually, he should add subtlety and complexity to the clues and additional distracting stimuli.

To test the student, instructor may give a hypothetical situation, present a recording or put student in a place containing various stimuli and ask what clues he would use and how. Another test would be for the instructor to survey an environment containing a wide variety and volume of environmental stimuli and to give the student runs in which he has to rely solely on clues in order to locate his objective successfully.

C. Indoor Numbering Systems

1. Definition

The patterning and arrangement of numbers of rooms within a specific building.

2. Principles

Focal points are usually near main entrances or where two main hallway arteries intersect.

Odd numbers are usually on one side and even numbers on the other.

Numbers usually progress from the focal point in sequence of twos.

Conceivable range of numbers on any given floor is 0-99 in the basement or on the first floor, 100-199 on the first floor, 200-299 on the second floor, etc.

3. Prerequisites

Ability to count, ability to generalize and transfer; concepts of odd and even numbers, ordering, and patterns; social skills to solicit aid effectively; basic knowledge and/or understanding of common building arrangements and of corridors; effective independent travel skills; *distance awareness; *ability to execute and understand 90° and 180° turns; *ability to use self-protective techniques and to select them appropriately; spatial concepts; directional concepts.

4. (a) Utilization—Purposes, Values, Specific Uses

Knowledge of the principles of numbering systems is of value in familiarizing oneself with a given building.

Knowledge of numbering systems is useful:

1) to minimize alternatives and assist in more efficiently locating specific objectives;

2) as a base from which to generalize to other floors and other buildings;

3) to assist in understanding and verbally describing the location of specific objectives.

Some concepts which may be introduced and/or further developed through the practice of establishing and utilizing numbering systems are: ordering, perpendicular, parallel, straight line, beginning, end, across, directionality, near, far, turn, above, below, up, down, measurement, transference (i.e., expansion joints, elevators, stairs, water fountains and bathrooms are usually transferable from one floor to another).

Skills which may be introduced or further developed are: sound localization, straight line travel, travel and protective techniques, soliciting aid, counting, distance awareness, turning (90° and 180°), ability to generalize and transfer, establishing and utilizing landmarks and clues, and measurement.

4. (b) Utilization—Techniques and Procedures

How to determine an existing numbering system:

1. Establish the focal point—where the numbers originate. This is usually near the main entrance or where two main arteries cross.

2. Solicit aid—usually either for the first two room numbers on one side of the hall or the first room number on either side of the hall.

3. Establish how many floors are in the building.

4. Establish the odd-even sequence.

5. Determine the progression of numbers (numbers usually progress away from the focal point.) Find out how high the numbers run and whether they go up by twos.

6. Establish irregularities in the building's structure (annexes, alcoves, etc.) and in the numbering sequence (e.g., restrooms, storage closets, janitor's closets, etc.).

7. Incorporate the use of landmarks into the numbering system, e.g., fireboxes, expansion joints, etc.

8. Optional: establish a landmark for the halfway point in the corridor(s).

Note: step 3 may come after step 5.

Note: Because of exceptions and irregularities in some numbering systems, knowledge of the system will sometimes only serve to help the student locate the general area of his objective, at which point he will have to solicit aid. Some common irregularities include: 1) unnumbered doors, such as janitor's closets; 2) several doors with the same number at several rooms—such as 233A, 233B, etc.; 4) auditoriums, lab rooms, etc., which may extend off the main hall and have numbers out of sequence; 5) rooms within rooms (e.g., room 201 may contain the doors to rooms 202, 203, 204, or 201A, 201B, etc.)

How to use a numbering system:

1. Enter a building where the numbering system is known.

2. Locate the focal point or a landmark nearest to your objective.

3. Trail along the wall, counting doors or mentally numbering doors until you reach your objective.

*4. If unsure, solicit aid.

5. Teaching and Testing

To teach numbering systems, choose a building with a highly regular numbering system, transferable between floors and with logical relationships between perpendicular corridors. Verbally explain the numbering system, possibly while employing a tactile map. Walk the student through the building, telling him the numbers and pointing out exceptions and possible landmarks. Cover one full floor and have the student describe the system. Then do one half of a second floor (where there is good transference), and have student complete the numbering system on the second floor.

Ask the student where a certain room number on a third floor of the same building is; have him: (a) tell you approximately how far down the corridor it is and on which wall, (b) tell you how to get there, and/or (c) point to where it should be (d) travel to it.

Take the student to a perpendicular corridor; ask him to hypothesize what he thinks the numbers are there and why; have him find a certain room on that corridor. If he is correct, give him an objective on the same corridor on another floor; ask him how he knows he's at the right room and point out any errors. Give him a new objective on that corridor. If he is incorrect, discuss his hypothetical numbering system and try to have *him* realize any fallacies in it by using thought-provoking or leading questions.

*Soliciting aid is used in numbering systems mainly for three reasons: a) to establish the progression of numbers when establishing the numbering system, b) to establish the odd-even sequence, and c) to check the room number when locating a specific objective.

Note: The instructor may choose to make student aware of his errors *at the time they are made* by asking him questions at the time or error—e.g., student assigns a number to a bathroom door, and the instructor asks student's rationale for this action. Try to lead him to the answers. Observe the student's technique—*is he logical* in his thinking?

Once the student has a basic understanding of the numbering system in that building, phase into more complex buildings and buildings with more irregularities, use buildings with several corridors, use basements, give more complex runs, and have the student establish and utilize landmarks within buildings. For buildings with very irregular or difficult-to-conceive floor plans or shapes, the instructor can use a tactile map or can trace the shape of the floor using student's finger.

Three common testing techniques employed here are: 1) "Tell me where room ____ is", 2) performance runs, and 3) verbal description of the numbering system by the student.

Games to help teach and test:

I. a. Tell the student "I will give you instructions to get to room _____ and I want you to follow them exactly; see if they're right."

   b. Give a room number; have him tell you exactly how to get there. Then say, "I'm going to follow your instructons; let's see if we get there."

   c. Tell the student, "I'm going to give you a set of instructions; you tell me what room number you think they will bring you to if followed."

Any or all steps can be repeated until mastered.

II. Repeat, or replace the above directions with a tactile map.

III. Give the student a tactile map of a hypothetical building (or one he doesn't know); have him make up his own numbering system and discuss it. Include all the components of numbering systems.

IV. Have the student locate something with reward value—he gets the reward if he reaches his objective efficiently. Coke machines, game rooms, and exits can be used, as well as other rewards. The objective can be in a numbered or unnumbered room if student knows where it is in relation to a numbered room.

D. Outdoor Numbering Systems

An understanding of the outdoor numbering system of a town or city can provide the blind person with a basis for developing a systematic method of orienting himself and then locating a specific objective such as a house or building number on a particular street. This knowledge should allow the blind mobility student to place himself in close proximity to a specific street address if not directly in front of it. He may have to solicit aid to determine the exact address.

To teach the outdoor numbering system of a city, the mobility specialist must know and understand it himself. Information about outdoor numbering systems used in different cities is usually available from one or more of the following sources: police stations; chamber of commerce; ambulance companies; taxi companies; the public transit system; fire department; city hall; gas stations.

E. Measurement

1. Definition

The act or process of measuring. Measuring is a skill involving ascertaining the exact or approximate dimensions of an object or space, using a given unit.

PACE = 5 FOOT
HEEL STRICK TO [illegible]

2. Principles

Everything in the environment is measurable.

Linear measurements are constant.

There are standard increments or units of measurement; those commonly used indoors are: inch, foot, yard, rod, and any fraction or approximation thereof.

Standard units of measurement have fixed, definite, interchangeable relationships to each other (e.g., 12 inches = one foot), and appropriate increments should be chosen according to the distance to be measured (e.g., use feet to measure length of table, use inches to measure length of pencil).

Measurements may be divided into three broad classes: (1) Measurements using standard units; (2) comparative measurements; and (3) nonstandardized (paces, knee high).

Comparative measurements compare the length or distance of two things; for example, longer than, wider than, less than.

Linear measurement is applied to the three basic dimensions: length, height, width.

Standard or nonstandard units may be used for approximate measurements (e.g., approximately 7 yards, waist-high, 3 paces).

3. Prerequisites

Ability to count; the concept of relative value of numbers; ability to add, subtract, multiply, and divide; good body imagery; clear concept of dimensions and the ability to apply it; knowledge of standardized measurement units and their relationships to each other; understanding of the concepts of less than, greater than, and equal to; kinesthetic awareness; tactual awareness.

4. (a) Utilization: Purposes, Values, Specific Uses

Measurement can be used:

1.) to determine or approximate the dimensions of an area whose size will affect the student's functioning therein;

2.) to determine what mobility techniques are appropriate in a particular area;

3.) to gain an accurate concept of particular objects and positional relationships between them,

4) to obtain a clear concept of the size of an area or object in relation to body size.

4. (b) Utilization—Techniques and Procedures

The student can use standard measuring tools, such as rulers, dividers, or yardsticks, to obtain an exact measure of an object, area, or distance. He should use these tools appropriately according to distance to be measured.

The student can use various techniques to obtain approximate measurements, such as: use of arm span; comparative measures such as knee-high, waist-high, etc.; use of the finger as unit of measurement for small things; pacing; use of the cane as unit of measurement; use of a braille ruler as unit of measurement; use of object perception and of the ability to interpret auditory input (such as echoes) to determine the approximate dimensions of a room or hallway.

5. Teaching and Testing

The student should know the different units of measurements and their relationship to each other. Demonstrate how to measure an object in the room in inches; object should be measureable in integers, and less than one foot long. Have the student do same. Have the student practice this procedure on different objects, using different measurements units, but only one type of unit at a time. Explain to the student that certain units are more appropriate than others on different

measuring assignments. Gradually have the student work towards a) greater accuracy in measurement, b) greater lengths or distances, and c) measuring in mixed units and fractions (e.g., 6 feet 2½ inches).

If the student needs to develop perceptual understanding of increments, the instructor may help by having student tactually examine objects of a given unit length.

Once the student has mastered the use of standardized measurements, his knowledge may be expanded to include the use of body parts or objects (e.g., cane, slate, cigarette) for obtaining approximate and comparative measurements (e.g., waist-high, knee-deep).

To test the student's understanding of or facility in measurement, you may: a) have him travel a distance of a certain exact or approximate distance; b) have the student locate two or three objects in the corridor, and tell you their distance from each other and from the starting point by whatever he deems the most appropriate increment; c) have the student estimate the height, length and width of various areas and objects using auditory clues only.

The student should be working towards developing good distance awareness as well as becoming proficient in establishing and in developing exact and approximate measurements of various lengths and areas, and in being capable of good judgment as to when approximate measurements are sufficient and when exact measurements are needed.

F. Compass Directions

1. Definition

"A direction is a line on which something is moving, along which something is pointed, in which something is aimed, or towards which something is facing." Compass directions are specialized directions which are dictated by the magnetic fields of the earth. The four main compass directions are cardinal points, and are spaced with 90° intervals around the circle of the compass; they are north, east, south, and west.

2. Principles

Compass directions are constant.

Compass directions are transferable from one environment to another. Compass directions allow the student to relate to the distant environment. Compass directions allow the student to relate environment to environment concepts in a more positive and definitive manner.

There are four main compass directions.

Principle of opposites: East and west are opposites; north and south are opposites.

An east-west line of direction is perpendicular and at right angles to a north-south line.

All east-west lines are parallel; all north-south lines are parallel.

Travel may be either east or west on an east-west line, and north or south on a north-south line.

3. Prerequisites

Understanding of basic positional terminology such as left, right, front, back; direction-taking; straight-line concept; understanding of and ability to execute 90° and 180° turns; understanding parallel, perpendicular, and right angle; understanding of relative and fixed positions and how things are related to each other positionally; concept of movable objects and how this may cause changes in positional relationships among objects and between oneself and objects; understanding of how movement will change the positional relationship to objects and places; concept of opposites; knowledge of the existence of the four cardinal directions; good body awareness; understanding the results of turns in relation to directionality.

4. (a) Utilization—Purposes, Values, Specific Uses:

Compass directions are of value to the visually handicapped person because:

1. Directions provide a personal system of orientation for the blind person—a way of monitoring movement and self-to-environment relationships.

2. Directions are more explicit and efficient when covering greater distances.

3. Directions provide a systematic means of traveling and maintaining orientation. The main point is that use of compass directions is efficient, because compass directions are constant and add stability to the environment.

Directions may be used:

1. to lay out, describe, and/or follow given routes to objectives;

2. to lay out alternate routes to an objective;

3. to facilitate communication concerning location of an object or place;

4. to obtain and maintain orientation (maintaining cognizance of directionality at all times prevents getting lost);

5. to establish and make optimum use of landmarks or points of reference;

6. to describe line of direction and line of travel; and

7. to formulate relationships between points (objects or places) in the environment or between oneself and points in the environment.

4. (b) Utilization—Techniques and Procedures:

The following are a few ways in which the student may use directions to orient or reorient himself indoors:

1. Retracing his steps until arriving at something familiar, with known direction;
2. use of landmarks;
3. use of the sun—brightness or temperature;
4. use of environmental clues, such as pedestrians, traffic sounds, etc., and
5. soliciting aid.

5. Teaching and Testing

First, explain to the student that there are four primary directions, which remain fixed and constant regardless of where he is and which way he is facing. Take the student to a familiar area, and while manipulating him appropriately, say something like the following: "You are now facing north. You are now facing east. You are now facing south. You are now facing west." Repeat this several times; then see if student can do it on his own, and if he can name the directions he is facing while moving counterclockwise. If the student has difficulty with this, you may have him think of directions in terms of the face of a clock, using 12:00 as north and 3:00 as east, etc.

When he has accomplished this, have the student face north, and ask him to point and then face south. Repeat this several times, and ask if he can tell you anything about the relationships between north and south. If not, give him several alternatives, such as "Are they next to each other? Are they the same? Are they opposite each other?", etc. When the student understands the relationship between north and south, do the same for east and west. Use similar procedures to have the student grasp the relationships between north, south, east and west, drawing on concepts of right angle and perpendicular. Next, move the student to a new area, and giving him one direction, see if he can show you the others. Drill should be used throughout this process.

Have the student face in one direction and ask which directions are on his left, right, and behind him. Repeat for other three directions. This can be reinforced with the "WE" System, a functional game which does not require understanding of the cardinal directions but helps in remembering their relationships to each other. It is a word association game to help monitor the directions during travel, and is based on four systems, as follows:

1. when facing north, the "we" system—*w*est is left, *e*ast is right.
2. when facing south, the "sew" system—*s*outh is ahead, *e*ast is left, *w*est is right.
3. when facing east, the "*n*ever *s*nows in the east" system—*n*orth is left, *s*outh is right.
4. when facing west, the "it *s*nows in the west" system—*s*outh is left, *n*orth is right.

When using this game, the instructor should ask the student his direction every time he makes a directional change. With practice, the student should be able eventually to drop the word association, then the letters.

Give the student runs, using cardinal directions, and have him point to where his objective should be before each run and point to his starting point after its completion. First give runs in terms of cardinal directions, then in terms of left and right, and have the student repeat the directions using north, south, east and west. Have the student give alternate routes to objectives. Phase the student gradually into more general runs, such as finding the northeastern-most corner of a building. In these situations, if the student becomes disoriented, he may find himself trying to make the environment fit into his concept directionally, even if it is wrong; for example, calling north "east" because, in his disoriented state, it seems logical to him.

Explain to student the concept of relative direction as opposed to absolute direction. A good method for teaching and testing this is the four-step formula to prove relationships between the student and any point in space, which is as follows:

1. Where is it? a) front b) back c) left d) right
2. What direction is it: a) north b) south c) east d) west
3. What direction is the object from me? (same alternatives as 2).
4. What direction am I from it? (same alternatives as 2 and 3).

The child or instructor chooses an object and the student those four questions, applying them to the position he is in relative to that object. Once the student is proficient in this game, the instructor can make additions and modifications, such as having the student face other directions and again answer the four questions, to find that the answers remain the same. Ask the student, "How do you change your relation (directionally) to the chair?" Later, questions 1 and 2 can be omitted. You can use different distances and add in a variety of distance factors. This can also be used to try to clarify the difference between facing in a direction and one's direction in relationship to objects.

Intermediate directions should be explained to the student and can be clarified by tactual exploration of a braille compass or by discussing with the student the end point of a run involving two or more cardinal directions. Throughout teaching of compass directions, the student's ability to transfer and generalize his knowledge of directions to other places should be tested. He should be made to understand that maps are representations of larger areas, and his ability to transfer directions from maps to the environment should be tested. The student may be further tested by having him explain his position relative to a particular point of reference or landmark in directional terms. A further test of the student's understanding would be to bring him to a corridor, give him one cardinal direction, and have him tell you the direction of the corridor and which side he is on, and have him place himself parallel to and then perpendicular to the corridor.

When the student's knowledge and understanding of compass directions is established, the instructor may work on more refined aspects of directionality such as straight-line travel, veering, recovery, and squaring off. The student should be capable of using an established landmark to reorient himself and/or determine his direction.

G. Self-Familiarization—(Special Lesson)

Introduction

The student seldom encounters difficulty when

traveling in a familiar environment. The true test of a student's orientation skills is when he is faced with making himself familiar with an unfamiliar environment. The self-familiarization process is actually a "special lesson," an effort to tie together the other five components of orientation and show their interrelatedness. It is assumed by the authors that by this point in the student's development he has mastered, or is in the process of, mastering the self-protective techniques as presented in the skill section of this book.

Using the protective techniques and the self-familiarization process as presented here, the student should be able to obtain a functional understanding of his environment, which would include: his position relative to significant objects within the environment and object to object (environment to environment) relationships.

The five components of orientation are the foundation of the self-familiarization process. They are: compass direction, measurement, clues, landmarks, and indoor numbering system. The student must *not only* have an intellectual awareness of these components, but he must also be able to functionally apply them individually and in combination. If used properly they give meaning to the self-familiarization process and make it systematic.

The authors have confined themselves to self-familiarization within a building, believing that the skills, techniques and processes presented can be transferred to the outdoor environment with little difficulty.

When familiarizing himself with an environment the student should keep three basic questions in mind: (a) What information do I need to function within this environment? (b) How do I obtain this information? (c) How will I utilize this information?

A procedural breakdown of the self-familiarization process is presented below.

The student upon entering a building that he plans to visit with some degree of frequency should:

(1) note the door's directional position (i.e., door on south side of building, east end of building). This requires the student to use outdoor environmental clues—sun, traffic, etc. (Clues).
(2) note any easily identifiable characteristics about the entrance that would establish it as a landmark, also noting any clues that may aid in relocation.
(3) note the door or entrance position relative to the main corridor. (This will give the student the corridor direction.)
(4) explore the immediate environment for landmarks or clues such as stairs, elevators, escalators, water fountains, rest rooms, telephones, odors, temperature changes or changes in brightness level.
(5) begin to expand his environment by moving along the corridor, trailing corridor wall, classifying environmental information into clues or landmarks and establishing the positional relationship (measurement) to each other and original focal point (Landmark).
(6) note the type of environment (i.e., is it a classroom building, office building, etc.)
(7) be aware of landmarks or clues that may have transference value to another floor in the same building (i.e., water fountains, stairs, rest rooms, elevators, expansion joints, etc.)
(8) continue this procedure the entire length of the corridor returning on the opposite side repeating procedures five through seven until reaching his original focal point (Landmark).
(9) after completing the above procedures the student solicits aid to establish the numbering system of the building, relating the numbering system to the environmental information he has previously obtained (landmarks, clues, compass directions and measurement). Information regarding the numbering system may be obtained at a point earlier in the self-familiarization process if the opportunity presents itself.
(10) transfer applicable environmental information to other floors (if multi-floor) and begin the self-familiarization process again.

SIGHTED GUIDE

PURPOSE: ■ To enable the student to:
■ Travel safely and efficiently with a sighted person within different environments and under varying conditions.
■ Take an active role while traveling, stressing naturalness through the use of nonverbal cues.
■ Develop skills and preparation for independent travel in such areas as kinesthetic awareness, graceful movement, and orientation.
■ Interpret and utilize guide-initiated cues and information from the environment.
■ Have a sufficient knowledge of the role of the sighted guide so that he may instruct the individual whom he decides to utilize as a sighted guide in any situation, and creates a positive public image.

A. ESTABLISHING A RELATIONSHIP FIRST
B. FINDING OUT WHERE THE STUDENT IS AT: PHYSICAL STRENGTH, ENDURANCE, CONFIDENCE, WHERE HE TRAVELS NOW, WHERE HE WANTS TO GO
C. ESTABLISH WHAT'S TO BE DONE

A. Basic Sighted Guide

PURPOSE: ■ To enable the student to utilize a sighted guide safely and efficiently.
■ To provide the student with a basis for subsequent guiding skills.

★ NOTE - TRAVEL IS VERY COGNIZING WITH TRAVELING WITHOUT SIGHT (IE) MEMORY & PROBLEM SOLVING & ORIENTATION

1. BASIC METHOD

1.1 Procedure

1.1.1 With the back of his hand the guide contacts the student's arm.

1.2 Rationale

1.2.1 Utilizing the back of the hand facilitates contact in a non-verbal manner. The back of the hand is used so the student can slide his hand up the guide's arm easily and conveniently.

1.3 Observations

1.3.1 Establishing contact may be accomplished by the guide's supplying a verbal clue in the context of the conversation.

In certain situations it may be necessary and appropriate for the student to initiate contact. An uninformed guide may tend to grasp the student's arm rather than having the student grasp his arm. Contact may be made higher up on the student's arm when he is seated.

1.1.2 The student moves his hand up the guide's arm into position just above the elbow.

1.2.2 This is to maintain constant contact with the guide's arm which avoids unnecessary groping and facilitates locating the proper position above the guide's elbow. This positioning of the student's hand affords maximum informational feedback while allowing the guide freedom of movement in the lower arm.

1.3.2 This position on the guide's arm may be modified in cases of extreme difference in height between student and guide.

A lower position on the guide's arm may supply undesirable feedback.

Geriatric students may get more support from an interlocking grip. If the student is seated he may simultaneously move his hand up the guide's arm while rising to a position just above the elbow.

1.1.3 The student's thumb is positioned just above the elbow on the lateral side of the guide's arm with the remaining four fingers on the medial side, in a grip that is secure, yet comfortable for the guide.	**1.2.3** The proper positioning of the thumb and fingers affords optimal informational feedback. A secure grip reduces possibility that the student may lose contact with the guide, provides a brace for stops and minimizes slippage and inappropriate feedback. A comfortable grip avoids tiring of either party while giving a natural appearance.	**1.3.3** While the grip should be secure enough to maintain contact, it should not be so tight as to cause discomfort for the guide. However, a looser grip may be necessary if the guide's arm is unusually large, or if he is wearing heavy clothing. A common fault is to hold the thumb and forefingers on the medial side of the arm, which allows no brace for stops.
1.1.4 The student's upper arm is positioned parallel and close to the side of his body.	**1.2.4** This minimizes body width while maintaining good distance and alignment, thus reducing the possibility of contacting objects, especially when negotiating turns. This facilitates accurate feedback and allows the guide to monitor student's position.	**1.3.4** Various body builds may alter the student's arm and body position relative to the guide. Some common faults are: tendency to swing out on turns, overextension of arm, and allowing the arm to drift out from the side of the student's body.
1.1.5 The student's upper and lower arm form an angle of approximately 90 degrees with the forearm pointing forward.	**1.2.5** This facilitates proper position of the grip on the guide's arm as well as proper positioning of the student for maximum safety.	**1.3.5** The degree of the angle will vary with body build. Two common faults are to increase the angle at the elbow and lag behind because of insecurity or fear, and to angle the lower arm outward from the body.
1.1.6 The shoulder of the student's grip arm is directly behind the shoulder of the guide's gripped arm.	**1.2.6** The proper shoulder alignment of the guide and student minimizes the combined body width and insures that the student will approach environmental situations perpendicularly. This also increases safety by reducing the possibility of contacting objects, especially when negotiating turns.	**1.3.6** To maintain proper arm alignment and position when negotiating turns, it may be necessary for the student to accelerate slightly if he is positioned on the outside of the guide.
1.1.7 The student remains approximately one half step behind the guide.	**1.2.7** The positional relationship between the student and the guide allows the student reaction time and accurate interpretation of the guide-initiated cues.	**1.3.7** If the student follows the guide too closely, reaction time is decreased as in sudden stops. If the student is positioned too far behind, he may receive inappropriate feedback.
1.1.8. The guide outwardly rotates his arm, simultaneously turning toward the student, and the student releases his grip.	**1.2.8** The outward rotation of the arm provides a discreet, nonverbal, and natural manner of informing the student that contact is to be broken.	**1.3.8** Breaking contact may be accomplished by the guide supplying a verbal cue in the context of a conversation. In certain situations, the student may initiate breaking contact by simply releasing his grip. After breaking contact it may be helpful to place the student in contact with a stationary object, either for support or orientational purposes.

GENERAL OBSERVATIONS

■ With a familiar guide and in unobstructed areas, the student may position himself alongside the guide for conversational purposes.
■ The guide sets the pace according to the needs and capabilities of the student. Nonverbal communication is facilitated if the student and guide are in step.
■ A student who is familiar with the surroundings may indicate directions to the guide through manipulation of the guide's arm.
■ Postural alterations such as poor body alignment, shuffling feet, leaning back and balance problems may be observed in new students.
■ The guide and student should appear as a fluid, moving team, with relaxed posture and body alignment. There is a progression of four stages in most students' development. The student is first aware of the mechanics of the skills being taught. Once the student feels confident that he has mastered skills, he becomes more aware of data input from his guide. In the next stage, the student becomes more aware of environmental data. Finally, the student is able to maintain orientation and use compass directions while traveling with a guide.

B. Reversing Directions

PURPOSE: ■ To enable the student and guide to execute a 180-degree turn in a limited amount of space.

1. BASIC METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The guide verbally indicates to the student to face the opposite direction.	1.2.1 A verbal indication of desire to reverse direction is necessary in order to initiate this procedure.	1.3.1 A pre-planned nonverbal cue may be utilized with a familiar guide to initiate this procedure.
1.1.2 The student releases his grip.	1.2.2 Releasing the grip permits the 180-degree turn to be made.	1.3.2 The student should release his grip only after he has come to a complete stop.
1.1.3 The guide and student turn toward each other while executing a 180-degree turn.	1.2.3 Executing a 180-degree turn toward each other establishes a consistent pattern, assists the student in maintaining his orientation, looks more natural than turning away from each other, and uses a minimum amount of space.	1.3.3 It may be necessary to instruct certain students in the concept of the 180-degree turn as a prerequisite to this procedure.
1.1.4 The guide reestablishes contact and the student resumes the proper position and grip.	1.2.4 Guide-initiated contact eliminates groping on the part of the student, and allows continuation of safe and natural sighted guide travel.	1.3.4 Reestablishment of contact may be accomplished by the guide supplying a verbal clue in the context of a conversation. In certain situations it may be necessary and appropriate for the student to initiate contact.

GENERAL OBSERVATIONS

■ This procedure provides the least conspicuous way of negotiating an about-face in a limited amount of space.
■ This technique may be helpful in crowded areas, such as hallways, auditoriums, and public gatherings.

C. Transferring Sides

PURPOSE: ■ To enable the student to switch sides out of personal preference, for social reasons, or for comfort and ease in negotiating environmental situations.

1. BASIC METHOD

1.1 Procedure

1.1.1 The guide furnishes a verbal indication to transfer sides.

1.1.2 The student contacts the guide's arm by placing the back of his free hand just above his grip. His fingers are positioned toward the guide's opposite arm.

1.1.3 The student releases his grip hand and turns 90 degrees toward the guide's opposite arm.

1.1.4 The student trails across the guide's back until reaching the opposite arm, and the student assumes the proper position and grip.

1.2 Rationale

1.2.1 Verbalization by the guide provides the only practical way to initiate this procedure without a planned, nonverbal cue.

1.2.2 Contact with the free hand assures continual contact with the guide so that the grip hand can be released.

This hand position facilitates trailing across the guide's back and positions the hand to grasp the guide's opposite arm.

Utilizing the back of the hand provides greater surface contact with the guide.

1.2.3 The original grip hand is no longer necessary after contact has been made with the free hand. The 90-degree turn positions the student for trailing and avoids stepping on guide's heels.

1.2.4 Trailing across the guide's back assures continual contact.

1.3 Observations

1.3.1 Transfer can be initiated by the student if he feels it is to his advantage in encounters involving doors, stairs, social situations, etc.

1.3.2 The student may apply slight pressure with the back of his hand to insure continual contact while executing this technique on the move.

A common fault is to release the grip before making contact with the opposite hand.

The fingers should be slightly flexed, close together, and relaxed.

1.3.3 The student may turn less than 90 degrees when executing this procedure on the move.

1.3.4 Trailing across the guide's back should be done quickly and smoothly so that the guide's pace will not cause the student to lose contact.

The hand should be cupped slightly to avoid catching on clothing or hair. The student may have to increase his pace to keep up with the guide while changing sides.

The guide may move his arm back so that the student may locate it more easily.

As the student resumes his grip, he should be alert for further cues from guide (e.g., doorway).

2. METHOD #2

2.1 Procedure

2.1.1 The guide furnishes a verbal indication to transfer sides.

2.2 Rationale

2.2.1 Verbalization by the guide provides the only practical way to initiate this procedure without a planned nonverbal cue.

2.3 Observations

2.3.1 Transfer can be initiated by the student if he feels it is to his advantage in encounters involving doors, stairs, social situations, etc.

2.1.2 With his free hand, the student grips the guide's arm just above the grip hand.	**2.2.2** Gripping the guide's arm with the free hand assures continual contact with the guide so that the original grip hand can be released.	**2.3.2** The grip must be secure enough so that contact is not lost. This is more secure than mere contact with back of hand as used in the basic method (see 1.1.2). A common fault is to release the original grip before the new grip is firmly established.
2.1.3 The student extends his arms.	**2.2.3** Extension of the arms prevents the student from stepping on the guide's heels.	**2.3.3** Extension of the arms may be accomplished by the student slowing his pace, if done on the move. A common fault is to extend the arms only partially.
2.1.4 Student releases the original grip hand. The back of the original grip hand is then trailed across the guide's back to the guide's opposite arm and the student grips the guide's opposite arm.	**2.2.4** This is to free the original grip hand in preparation for trailing across guide's back. Trailing helps locate the opposite arm; the grip adds security and stability.	**2.3.4** The trailing process may be omitted for students possessing good kinesthetic awareness. Fingers should be pointed towards the guide's original grip arm.
2.1.5 The student's grip on the side from which he is transferring is released and trailed to the opposite arm. The proper grip and position is assumed on the new side. The student should not release his outside hand before securing grasp with the other hand to avoid losing contact. At this point the student must be alert for further cues from the guide.	**2.2.5** Trailing facilitates locating the opposite arm to establish the proper grip, so that grip on original arm may be released.	**2.3.5** The trailing process may be omitted for students possessing good kinesthetic awareness. Fingers should be pointed towards the guide's new grip arm.

GENERAL OBSERVATIONS

- The basic method is less complex and may therefore be preferred by young students.
- The basic method may be preferred when transferring while in a stationary position.
- Geriatric or orthopedically involved students may prefer method #2, as it affords more stability and security.
- The lateral movement involved in method #2 may aid the student in maintaining orientation in that a new direction is not assumed.
- Transferring sides may be accomplished from a stationary position or while in motion.
- The guide should plan and time initiation of transfer, so that the student is on the proper side at the most opportune time.
- The guide should be alert to student-initiated transfers that may necessitate his moving laterally away from objects on the side to which the student is transferring.
- The guide should not initiate transfer sides or a turn.
- Reasons for initiating transfer of sides may be as follows: a) the guide or student may have packages in one arm, b) the guide's or student's arm may be fatigued, c) the palm of the student's hand may perspire, d) the student or guide may have preference for one side, e) social graces may be observed (e.g., male on street side), f environmental situations may arise (e.g., auditorium seating).

D. Narrow Passageways

PURPOSE: ■ To allow passage through a narrow opening that cannot be negotiated in the normal sighted guide procedure.

1. BASIC METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The guide moves his arm behind and towards the small of his back.	1.2.1 This provides a nonverbal indication that a narrow passageway is to be traversed.	1.3.1 The initial learning phase may necessitate exaggerated arm movement of the guide to insure the student's reception of the non-verbal cue. He may modify this procedure by moving his arm behind and placing his wrist on the center of his back.
1.1.2 The student responds by extending his arm and moving directly behind the guide.	1.2.2 Extending the arm places the student the maximum distance from the guide to avoid stepping on his heels, and moving directly behind lessens the combined body width of the guide and student.	1.3.2 Students who are short in stature may find sliding the grip to the guide's wrist advantageous to assure direct alignment and maximum distance from the guide. The student should maintain a consistent pace and avoid taking short, choppy steps. Another method for narrow passageways is for the student to move behind the guide and grasp the guide's arm with his free hand (and release his original grip). The student should wait for the guide's cue before resuming proper position to avoid possible danger or injury.
1.1.3 After traversing the narrow passageway, the guide returns his arm to a normal position.	1.2.3 This provides a nonverbal indication that the narrow passageway has been traversed.	1.3.3 The initial learning phase may necessitate exaggerated arm movement by the guide to insure the student's reception of the nonverbal cue. The student should be alert for further cues from the guide immediately after traversing the narrow passageway. In resuming normal position, the student must be sure to walk slightly outward before moving forward. The student should resume normal position promptly. The student resumes the normal position and grip. The guide and/or student may have to adjust his pace to facilitate resumption of normal position.

GENERAL OBSERVATIONS

■ The student can perform this technique independent of the guide's cue if he is with an inexperienced guide.
■ Postural alterations such as ducking the head, side stepping, leaning back and shuffling the feet may be observed initially with insecure students.
■ In extremely narrow or congested areas, it may be necessary to use a side-stepping procedure as found in auditorium seating (see Section H.2).
■ Judgement of width and time to accomplish this procedure is the responsibility of the guide.
■ The time spent in the narrow passageway position should be minimal to avoid anxiety or discomfort.
■ The guide should initiate narrow passageway if there is any reasonable doubt as to the student's clearance.
■ The guide should maintain constant frontal body alignment in order not to give false nonverbal cues to the student.

E. Accepting or Refusing Aid (Hines Break)

* DON'T USE THE CANE TO [illegible] AND DON'T PANIC.

PURPOSE: ■ To enable the student to graciously accept or refuse assistance, depending on his need or desire.

1. BASIC METHOD

1.1 Procedure

1.1.1 The student responds to the guide's pressure by relaxing the grasped arm and raising it toward his opposite shoulder, keeping his feet stationary.

1.1.2 With his free hand, the student grasps the guide's wrist while verbalizing his intentions.

1.1.3 The student pulls the guide's wrist forward until the guide loses contact.

1.2 Rationale

1.2.1 Relaxing the arm decreases the security of the guide's grip and communicates to him that his action is inappropriate. Movement to the opposite shoulder further decreases the guide's security and positions the guide's wrist so that it can be easily grasped. Keeping feet stationary aids in balance, alignment, and direction.

1.2.2 The guide's wrist is most accessible at this point and provides a small, secure area to grasp.

By verbalizing, the student communicates his intentions to the guide, facilitating the desired action.

Verbalization is also made for reasons of etiquette and public education.

1.2.3 Pulling the guide's wrist forward positions his arm for the student to assume the proper grip and position.

1.3 Observations

1.3.1 To refuse aid, turning the upper portion o the body slightly away from the guide whil raising the arm toward the opposite shoulder ma be sufficient for full release.

1.3.2 If student were to grasp another part o guide's arm, slippage would be more likely.

A common fault is to omit verbalization fo reasons of time. Omission of verbalization ma seem rude.

Verbalization should be firm but polite so tha the guide will properly assist other blind people i the future.

1.3.3 The guide's wrist is pulled forward as final step to insure full release of the student' arm.

If the student wishes to accept aid, he must n release the guide's wrist until he has assumed th proper position and grip to avoid losing contact

1.1.4 To accept aid, the student, with his free hand, assumes the proper grip; to refuse aid, the student does not assume the proper grip. The student releases the guide's wrist.	**1.2.4** This reflects the student's intent and ensures safety.	**1.3.4** Rather than being manipulated, the student is now assuming an active role. By assuming proper grip, the student is informing the guide and any observers of proper procedures in assisting a blind person as a sighted guide.

GENERAL OBSERVATIONS

- Acceptance and refusal of aid should be executed as quickly and smoothly as possible.
- Because of the persistence of certain individuals, it may be necessary for the student to be aggressive in his acceptance or refusal of aid.
- Acceptance or refusal of aid may be referred to as the Hines Break or the limp arm technique.
- The encounters will vary, and the ways in which guides attempt to give aid will differ in persistence, method and aggressiveness.
- As indicated in 1.1.3 and 1.1.4, this procedure provides a good opportunity for the student to display his independence and ability to make decisions.
- If the "helper" is persistent, the student may have to consent to use his aid. In such a case, the student may also use other protective measures to ensure his safety.
- The student may be contacted on other parts of the body (e.g., shoulder or back). In this case, rotating the body away from the guide's grasp may suffice.
- In some cases, verbalization may be all that is necessary in accepting or refusing aid.
- See III D., Accepting or Refusing Aid with Cane.
- The instructor may give the student the opportunity to practice this skill by grasping his arm unexpectedly.

F. Stairways (Single- or Multi-step)

POSITION YOURSELF NEAR THE STUDENT'S FEET [illegible] STAIRS.

* IMPORTANT [illegible] THE STUDENT FEEL SAFE. LET HIM KNOW ONCE OR TWICE WHAT YOU ARE DOING

PURPOSE: ■ To enable the student and guide to safely and efficiently negotiate stairways.

1. BASIC METHOD

1.1 Procedure	**1.2 Rationale**	**1.3 Observations**
1.1.1 The guide approaches the edge of the steps perpendicularly.	**1.2.1** This positions the student one half step from and squarely aligned with the edge of the first step, and assists him in maintaining orientation. This also ensures that the guide reaches the stairs before the student.	**1.3.1** Rounded curbs or steps may be approached perpendicularly. Realignment in the intended direction should be made after the negotiation of the step or curb.
1.1.2 The guide pauses at the edge of the first step.	**1.2.2** This indicates the presence of a stairway. This also allows student to come up alongside the guide.	**1.3.2** Initially, pronounced pauses at the beginning and end of the stairs may aid the student in building confidence and ensure the proper interpretation of nonverbal cues. However, once the student becomes more proficient in negotiating stairways, the pronounced pauses may be eliminated and the guide may pause in stride or merely tense his arm. Pauses may denote other environmental changes.

1.1.3 The student aligns himself evenly beside the guide.	**1.2.3** This exacts the student's position relative to the first step.	**1.3.3** If stairway is too narrow or congested fo proper stairway procedure, the guide may put th student in narrow passageway position, and stu dent remains two steps behind the guide whil transversing the stairs. With more advanced students, alignment be side the guide is not necessary. If the student moves too far forward, the guid can signal the student by tensing his arm; if th student does not move far enough, the guide ma pull his arm further forward to move the studer to the correct position. A variation may be that the student remair one half step behind the guide and slides one fo forward to locate the edge or base of the first ste
1.1.4 The guide takes the first step.	**1.2.4** This increases safety and indicates the vertical direction of the stairs to the student through a nonverbal cue.	**1.3.4** A common fault is for the student to antic pate the guide's first step.
1.1.5 The student follows at the guide's pace, remaining one step behind.	**1.2.5** An even pace and an equal distance insure accurate feedback and safety.	**1.3.5** The guide should maintain an even pace t eliminate the student's hesitation and anxiet and his anticipation of the end of the stairway.
1.1.6 The guide pauses after completing the stairs. The guide and student resume a normal pace.	**1.2.6** Pausing after completing the stairs indicates that there is one step remaining for the student. Resuming normal pace is done for safety and naturalness, and to avoid congestion at the landing.	**1.3.6** This may eliminate step counting since th student can rely on the brief pause by the guide a proper indication of the final step. At this point the student should be alert to, b should not anticipate, further cues from guide. As the student gains confidence, pauses m be less pronounced. A slight forward arm motion and an accele ated pace may be used by the guide as an indic tion to the student that the stairway has be completely traversed. In certain circumstances (e.g., congested are normal pace may not be resumed.

GENERAL OBSERVATIONS

■ Positioning of the student next to the handrail may be advantageous for safety, as: (a) the student may be able to grasp the handrail should he begin to trip or fall; (b) a student with additional physical difficulties may be advised to utilize the handrail; (c) a student who is apprehensive; (d) the guide is positioned to reach across the student and grasp the handrail should he begin to trip or fall (in the case of descending stairs).

■ Irregularities of certain stairways may neces tate verbalization on the part of the guide.

■ Student should be alert to auditory clu indicating the nature of the stairway (e.g., wid congestion).

■ Auditory clues, such as pedestrian movement on the stairs and the hollow sound common to most stairwells, may indicate to the student the presence of a stairway.
■ The student may align himself beside the guide for other environmental changes.
■ The guide and student should maintain a relaxed but erect posture, and body weight should be evenly distributed.

■ In situations where the stairway is crowded or congested, it may be advantageous for the guide to initiate movement up or down the first step and then position the student squarely at the edge of the first step with a nonverbal cue.
■ The student should be introduced to this skill on a set of ascending stairs which are not irregular. Depth and width of steps are indicated by the guide's stride and body movement.

■ A curb should be treated as a single step stairway.
■ The guide may indicate sudden terrain changes (e.g., ramps, grass, hills) by a nonverbal cue (see 1.3.2).
■ In the case of a spiral or curved stairway, it is necessary for student to use handrail.
■ In cases of irregularly spaced steps, it may be necessary for the guide to pause at each step.

G. Doorways

PURPOSE: ■ To enable the student to safely and efficiently negotiate a doorway, providing assistance to the guide.

1. BASIC METHOD

1.1 Procedure

1.1.1 When the guide pulls or pushes the door, the student assumes a modified hand and forearm by extending his arm just above his waist at an obtuse angle horizontally across the front of the body. The palm is rotated outward, keeping the hand aligned with the forearm and the fingers relaxed and together.

1.2 Rationale

1.2.1 The student assumes this position at this time because the guide's movement indicates that they are encountering a doorway.

This technique is implemented to: (a) protect the student from being struck by the door; (b) allow the student to contact or locate the door, push bar, or push plate; and (c) provides a greater surface contact area. Keeping the fingers closed but relaxed protects the fingers from possible injury.

1.3 Observations

1.3.1 The student may interpret from the body movement of the guide and/or from distinct auditory indications the swing direction of the encountered door.

During the initial phases of instruction it may be advisable for the guide to exaggerate his body movements to inform the student of the presence of a doorway.

With certain students it may be necessary for the guide to verbally inform him of the directional swing of the door.

The student should not hesitate in assuming this position since he should always be prepared for possible negligence on the part of the guide.

The student should avoid groping for the door.

The student should keep his hand and forearm in a constant position.

A common fault is to hold the modified hand and forearm too high.

1.1.2 If he fails to contact the door in approximately one step for pull doors and one and one-half steps for push doors), the student alternates the grip hand with the free hand and moves behind the guide. The student then assumes the modified hand and forearm with the free hand.	**1.2.2** The extra half step is allotted because of the added time necessary to contact a push door. The student alternates his grip to maintain the contact with the guide, and positions himself to manipulate the door on the opposite side, and to avoid hitting the door jamb. The modified hand and forearm is resumed to contact the door and to provide continual protection.	**1.3.2** This step may be eliminated by transferring sides before encountering the door through (a) use of environmental clues, (b) familiarity with the door, or (c) verbal indication by the guide. The student may utilize auditory clues from the door in making the decision to change hands. In this action particularly, the student should be competent in judging his time and distance in relation to the doorway since some situations, if improperly analyzed, could lead to injury of the student. Narrow passageway procedure may be necessary for traversing narrow or congested doorways; however, compensation must be made for the time and distance.
1.1.3 The guide positions the student to the door.	**1.2.3** This is to position the student so that he can most effectively manipulate the door.	**1.3.3** The student should be prepared for a variety of doors.
1.1.4 The student contacts the door and pushes it further open.	**1.2.4** This facilitates smooth and efficient movement through doorways by allowing ample room for passage.	**1.3.4** The student should locate the edge of the door and use the knob, bar, or plate to push the door further open since this affords the student optimum leverage.
1.1.5 The student releases the door, or the guide pauses to allow the student to close the door.	**1.2.5** This allows the door to close itself, or the pause gives the student the necessary time to close it manually.	**1.3.5** By being aware of the pressure exerted by the door, the student should be able to know whether it is self-closing. The guide's pause will further indicate that the door requires manual closing.
1.1.6 The student resumes the proper position and grip.	**1.2.6** This is to resume safe and natural sighted guide travel.	**1.3.6** If the doorway has allowed the student to maintain the proper grip and position, he need only to drop his free hand to his side. Proper positioning may be resumed after the student releases the door, after the student manually closes the door, or when the guide provides a proper nonverbal cue.

GENERAL OBSERVATIONS

- The social factor of active participation is very important, as the student is providing vital assistance to the guide.
- Before encountering a narrow doorway, the guide may indicate nonverbally for the student to move into the narrow passageway position. The student should be aware of the additional time lapse before he encounters the door.
- As a means of stressing the practicality of the student's assistance, the guide may first take the student through the doorway without the student's assistance.
- The student should be exposed to as many types of doors as possible.
- If the student is carrying a small object, he may either keep it in his free hand and proceed with modified hand and forearm or he may place the object between the thumb of grip hand and the guide's arm.

■ If the object is medium-sized, the student may release his grip, maintain contact with the guide's arm by pressing the back of his hand against it, and transfer the object to this hand; or contact may be made with the object itself against the guide's arm or back.
■ For large objects, contact is completely broken and the student traverses the door independently.
■ For motivational purposes, the social implications of opening a door for a female guide may be stressed to a male student.
■ Generally, doors to hallways and public buildings open outward, while doors to private residences and individual rooms open inward.

H. Seating

PURPOSE: ■ To enable the student to locate and examine seat and independently seat himself.

1. BASIC METHOD (General Seating)

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The guide brings the student within close proximity of a seat.	1.2.1 Contact of a seat is made more accessible when the student is brought into close proximity.	1.3.1 It may be necessary for the guide to bring certain students up to and in contact with the seat.
1.1.2 The guide verbalizes the seat's position relative to the student.	1.2.2 This establishes the seat's positional relationship to the student and ensures that the student's movement will be in the proper direction.	1.3.2 This may aid the student in maintaining orientation.
1.1.3 The student releases his grip on the guide.	1.2.3 This affords the student freedom of movement to initiate the seating process.	1.3.3 With certain students, release may occur after initial contact with the seat is made. The student may turn to face the chair before locating it with his foot.
1.1.4 The student moves his foot in the direction of the seat until contact with the seat is made.	1.2.4 Foot movement provides an inconspicuous manner of contacting the seat.	1.3.4 If contact with the seat is not made with the initial extension of the foot, the student moves up to the position of his extended foot and repeats the procedure utilizing his lower hand and forearm. This may indicate to the student the height of the seat.
1.1.5 The student faces the seat, assuming a modified hand and forearm vertically or horizontally in front of his face and forehead.	1.2.5 Facing the seat aids the clearing process, and the modified hand and forearm provides maximum protection for the face and forehead while bending to examine the seat.	1.3.5 To minimize the possibility of injury, hand and forearm positional relationship to the face and forehead should be kept constant while bending to examine the seat. If the student finds he is facing the back of the chair or couch, he may trail along the back of the seat, keeping his free arm close to his side, and using his leg to trail along the side of the seat to avoid disturbing anything on the arm of the seat. The modified hand and forearm may not be necessary in familiar situations.

1.1.6 The student bends at the waist, and with his free arm contacts the seat at the point where it contacts his leg.	**1.2.6** Bending at the waist promotes naturalness while initiating clearing from the point of contact avoids disturbing objects which may be in the seat. This also establishes a reference point which facilitates a systematic search of the seat.	**1.3.6** This may eliminate groping for the seat. A modification of this component would be (a) continue movement of modified hand a forearm to make contact with the back of the se (b) trail to the seat, and (c) continue to trail wi the same hand.
1.1.7 With the backs of the fingers, the student lightly clears the area on which he will sit by using: a) horizontal and vertical; or b) circular movement.	**1.2.7** This indicates the shape and size of the seat, determines the position of the seat's back, and checks the content of the seat. Using the backs of the fingers or fingertips with a light touch is less likely to disturb objects on the seat than using the palm.	**1.3.7** In familiar environments, or if the stud is relatively certain that the chair is clear, natur ness can be stressed by clearing while bei seated. The student should not do any more cle ing than necessary.
1.1.8 With the back of his legs, the student squares off against the front of the seat and is seated.	**1.2.8** This increases safety in that the student is properly positioned for sitting.	**1.3.8** For stability, security, and alignment student may need to maintain a hold on the s while being seated.
1.1.9 To exit, the guide reestablishes contact with the student.	**1.2.9** Deliberate reestablishment of contact informs the student of the appropriate time to exit and facilitates the resumption of proper position for sighted guide travel.	**1.3.9** This may be done nonverbally or verba depending on the situation. For naturalness the guide may contact student's upper arm or shoulder.
1.1.10 Simultaneously with rising, the student trails his hand up the guide's arm to the appropriate grip position and assumes the proper grip and position.	**1.2.10** Trailing up the guide's arm keeps the student in constant contact with the guide and facilitates resumption of the proper position and grip for safe and natural sighted guide travel.	**1.3.10** If student is seated at a table when guide reestablishes contact, contact may be t porarily broken to allow the student to push chair under the table; contact is then reest lished.

2. METHOD #2 (Auditorium Seating)

2.1 Procedure	**2.2 Rationale**	**2.3 Observations**
2.1.1 The guide pauses at the appropriate row.	**2.2.1** This properly positions the guide to enter the row and nonverbally informs the student to position himself properly for lateral movement into the row.	**2.3.1** With certain students the guide may nish a verbal indication at the appropriate ro Pauses may be necessary in congested aisl The student should be aware of the situat in order not to misinterpret pauses.
2.1.2 The student aligns himself alongside the guide.	**2.2.2** This is done to place the student in the proper position for lateral movement into the row.	**2.3.2** It may be necessary for the guide to pro a verbal clue or a slight forward motion of the to position the student beside him.

2.1.3 The guide or student initiates lateral movement into the row.	**2.2.3** Lateral movement facilitates ease in negotiation of the row.	**2.3.3** The student may be in the lead position to enter the row and initiate sidestepping upon receiving arm motion from the guide. Certain students may be able to initiate sidestepping without a cue from the guide.
2.1.4 The student is positioned close to the seat, and, with the back of his free hand, trails the back of the seats immediately in front of him.	**2.2.4** This enables the student to maintain alignment alongside the guide, is inconspicuous and reduces the possibility of contact with seated persons.	**2.3.4** The trailing hand should be kept on the backs of the seats to avoid disturbing seated persons.
2.1.5 The guide stops at the appropriate seats.	**2.2.5** This informs the student nonverbally that he has arrived at the appropriate seat, and positions him in front of it.	**2.3.5** The guide may break contact to further indicate to the student that the appropriate seat has been reached. If the guide stops or pauses before reaching the appropriate seats, he should verbally indicate this to the student.
2.1.6 The student releases his grip on the guide.	**2.2.6** This is to increase the student's freedom of movement.	**2.3.6** Release of the guide promotes naturalness. Certain students may prefer to maintain the grip until the seat has been contacted.
2.1.7 With the back of the legs, the student squares off against the seat.	**2.2.7** This is an inconspicuous way of ensuring that the student is properly aligned for seating.	**2.3.7** It is also permissible to use this procedure for general seating. With moveable seats it may be necessary to grip the chair for alignment.
2.1.8 The student clears the seat simultaneously with being seated.	**2.2.8** This is done to check for objects on the seating area in a natural manner.	**2.3.8** When the seat is of the spring-up type, the student may clear the seat as he pulls it down.
2.1.9 To exit, the guide reestablishes contact with the student.	**2.2.9** This informs the student that it is time to leave, and enables him to assume the proper position for sighted guide travel.	**2.3.9** It may be advisable to remain seated and allow the crowd to diminish before exiting. Reestablishing contact may be done in conjunction with a verbal clue. For naturalness the guide may reestablish contact by placing his hand against the student's shoulder.
2.1.10 Simultaneously with rising, the student trails his hand up the guide's arm to the appropriate grip position and assumes a stance alongside the guide.	**2.2.10** Trailing up the guide's arm keeps the student in constant contact with the guide.	**2.3.10** Trailing to the proper position while rising is discreet and stresses naturalness.

2.1.11 The guide or student initiates lateral movement toward the appropriate aisle.	**2.2.11** Lateral movement facilitates negotiation of the row.	**2.3.11** The student may initiate sidestepping upon receiving arm motion from the guide. Certain students may be able to initiate sidestepping without a cue from the guide. When trailing, the student should avoid disturbing seated persons.
2.1.12 The student is positioned close to the seats, and with the back of his free hand he trails the back of the seats immediately in front of him until reaching the aisle.	**2.2.12** This enables the student to maintain alignment alongside the guide, is inconspicuous, reduces the possibility of contact with seated persons, and indicates when the aisle has been reached.	**2.3.12** Trailing may be accomplished by keeping the knees in contact with the seat's back. After reaching the aisle, the guide and student may need to reverse direction to be properly positioned for exiting the auditorium.

GENERAL OBSERVATIONS

- The student should be exposed to a variety of seating arrangements and types of seats.
- The student should be allowed to approach seats from a variety of positions and from different angles.
- When being seated at a table, the student should keep one hand in constant contact with the table as a reference, until he is completely seated.
- The auditorium seating procedure may also be employed in negotiating extremely narrow passageways or cafeteria lines.
- As seating is often a critical social situation in which the student may be in the public eye, naturalness is particularly important. Movemen should be quick and smooth.
- For seating in the front row of an auditorium lateral movement may be unnecessary; in such a case the student should follow the guide's cues
- In certain situations, it may be impossibl to trail the row immediately in front (e.g stadiums).

SELF PROTECTION

PURPOSE: ■ To enable the student to travel efficiently and independently, primarily in familiar indoor environments, affording the student maximum protection without the use of a mobility aid.

A. Upper Hand and Forearm

PURPOSE: ■ To enable the student to detect vertical objects which may be encountered by the upper region of the body.

1. BASIC METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The arm is positioned parallel to the floor at shoulder level.	**1.2.1** This facilitates detection of objects at head and chest level.	**1.3.1** If the arm is not held parallel to floor, it will decrease reaction time. A common fault is to pull the shoulder forward, which would interfere with body alignment. Students may tire quickly at first, allowing the arm to drop below shoulder level. To remedy this problem, the instructor may intersperse instruction of this skill with one which uses other muscles.
1.1.2 The forearm is flexed at the elbow, forming an obtuse angle of approximately 120 degrees.	**1.2.2** This angle allows the palm to contact objects first, resulting in maximum reaction time.	**1.3.2** For students with particularly short arms, the arm may be further extended, increasing the angle at the elbow beyond 120 degrees. This modification increases reaction time at the expense of some body coverage on the opposite side. In this case a slower pace may be necessary.

1.1.3 The fingers are relaxed, held together, and extended approximately one inch outside of the opposite shoulder with the palm outwardly rotated.

1.2.3 Keeping the fingers relaxed and the palm outwardly rotated prevents injury to the hand and forearm as objects are contacted.

The fingers extended one inch beyond the shoulder afford maximum protection to the opposite side of the body.

1.3.3 Keeping the fingers relaxed provides for a natural "give" when contacting objects.

Outward rotation of the hand and forearm prevents the student from injury when contacting objects since the "tougher" or "well padded" surfaces contact the object first.

A common fault is to extend the elbow out to the side, decreasing body coverage.

Another common fault is to cock the wrist back, reducing reaction time and increasing the vulnerability of the wrist. Lateral or medial positional deviations of the fingers extended one inch outside the opposite shoulder may minimize protection on either side of the body.

GENERAL OBSERVATIONS

- This skill may be referred to as upper body, cross body, or arm across the chest technique.
- The student may slow his pace when objects are anticipated.
- This technique may be combined with lower hand and forearm, trailing, and certain cane skills to provide maximum protection in certain situations.
- The upper hand and forearm may appear conspicuous and be tiring to the student, and should therefore be used selectively.
- The student may be able to carry books in a modified upper hand and forearm position as a modification of this technique.
- When paralleling a wall, the arm opposite the wall is generally used in the upper hand and forearm technique.
- Teaching method: (a) extend the arm to shoulder height as if to shake hands at this level; (b) bring the hand to the opposite shoulder; (c) extend the forearm an appropriate distance, forming an obtuse angle from the body; (d) rotate the palm outward, keeping the fingers extended, close together and relaxed.
- There is a tendency for students to tense up when they approach an object. It is important for them to remember that it is vital that the hand and forearm be relaxed to best absorb shock.
- For this skill, good body concept and kin esthetic awareness are necessary.
- The instructor may begin teaching this skill b having the student position his arm, bring i down and repeat several times.
- The instructor should view the student fron different angles to check various aspects of th arm position.
- The instructor may wish to introduce straigl line of travel techniques in conjunction with thi skill.

B. Lower Hand and Forearm

PURPOSE: ■ To enable the student to locate and protect himself from objects at waist level.

1. BASIC METHOD

1.1 Procedure

1.1.1 The student's upper arm, forearm, wrist and fingers are extended.

1.2 Rationale

1.2.1 This will provide maximum lower body protection when procedures 1.1.2 and 1.1.3 are combined.

1.3 Observations

1.3.1 The arm should be relatively straight, b not rigid, so the position will be comfortable a easy to maintain.

1.1.2 The hand is positioned downward at the body midline, approximately six to eight inches away from the body.	1.2.2 The midline position protects the most sensitive lower body area, and the six to eight inch distance from the body provides reaction time.	1.3.2 This may vary according to the student's height and his familiarity with the environment. A modification of this step is to position the arm diagonally across the body so that the hand is directly in front of the opposite thigh. This provides additional coverage on the opposite side.
1.1.3 The palm is rotated inward and the fingers remain close together and relaxed.	1.2.3 This presents a natural appearance and minimizes the possibility of injury to the hand.	1.3.3 The hand may be flexed laterally to a position in front of the opposite thigh, when objects are anticipated on that particular side. A common fault is to keep the arm too close to the body, extending downward coverage but decreasing reaction time. Light objects, books or papers may be carried in this hand or extended downward to increase coverage.

GENERAL OBSERVATIONS

- This technique may be used in combination with upper hand and forearm or trailing.
- This technique is natural for locating chairs, doorknobs, and other objects at or just below waist level.
- This technique should be used selectively, when traveling in a room or when the student suspects that there are objects below chest level.
- A common fault is to pull one shoulder forward, which may alter the student's alignment.

C. Trailing

PURPOSE:
- To facilitate the student's maintenance of a straight line of travel in a desired direction.
- To enable the student to locate a specific objective.
- To enable the student to remain cognizant of his position in space by keeping in constant contact with the environment.

1. BASIC METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 Facing the desired line of travel, the student is positioned parallel to and near the object to be trailed.	1.2.1 The proper position aids in maintaining contact with the object and in maintaining a desired line of direction.	1.3.1 The distance from the wall or object should not exceed ten inches.
1.1.2 The arm nearest the object is extended downward and forward at an approximate angle of 45 degrees in the anterior-posterior plane.	1.2.2 The arm extension provides reaction time should objects be encountered along the trailing surface. The downward angle facilitates ease and comfort in trailing.	1.3.2 The student must be sure to keep arm constant. Taller students should decrease the angle slightly to detect pertinent lower objects, such as handrails.

1.1.3 The palm is cupped slightly with the back of the hand angled toward the wall and the fingers are slightly flexed, kept close together, and relaxed.

1.1.4 Contact with the object is established and maintained with the ring and little fingers.

1.1.5 Light contact is maintained while the student proceeds to the objective.

1.2.3 Keeping the palm cupped and fingers close together and relaxed protects the hand and fingers from possible injury while attaining maximum feedback.

1.2.4 Using this method enables the student to pass over most objects or protrusions encountered without being injured.

1.2.5 Light contact reduces the possibility of injury to the hand or fingers, and facilitates passage over slight protrusions and crevices. This also helps maintain constancy of hand position and prevents the fingers from disturbing objects on the trailing surface.

1.3.3 The position of the trailing hand may vary according to the quality and/or roughness of the surface being trailed (see 1.3.4).

Injury would be more likely if the hand is positioned with the fingers extended.

1.3.4 **Variations in** methods of trailing include: **(a)** cupping palm toward wall and trailing with the back of the fingernails when trailing coarse surfaces; and **(b)** cupping palm toward floor and trailing with the side of the little finger for greater ease in trailing.

1.3.5 Light contact may allow the student to maintain a natural pace.

GENERAL OBSERVATIONS

■ In hallways and corridors, trailing should be done along the right hand side so as to move with the normal flow of pedestrian traffic.

■ For greater protection, upper hand and forearm or lower hand and forearm may be employed while trailing.

■ Desks and table tops should be trailed along the side to avoid disturbing objects which may be on the desk or table top.

■ A common fault when trailing walls is to veer away from the trailing surface.

D. Traversing Open Doorways

PURPOSE: ■ To enable the student to negotiate an open area efficiently while maintaining his desired line of travel.

1. BASIC METHOD

1.1 Procedure

1.1.1 The student detects the opening and maintains extension of his trailing arm.

1.2 Rationale

1.2.1 Maintaining arm extension facilitates maintenance of a straight line across the opening and contacting the opposite side.

1.3 Observations

1.3.1 There are three main drawbacks to this procedure: (a) lack of protection; (b) possibility of poking persons who may be in doorway; (c) veering from a straight line of travel and missing the opposite side.

1.1.2 The student continues in a straight line of travel until he contacts the opposite side and resumes proper trailing.	1.2.2 The student continues in a straight line of travel to contact the opposite side in the shortest possible time. He resumes proper trailing to continue quick and safe travel along the wall.	1.3.2 There may be danger of student injuring his hand in the door jamb.

2. METHOD #2

2.1 Procedure	2.2 Rationale	2.3 Observations
2.1.1 Upon detection of the opening by trailing, the student discontinues arm extension, simultaneously assuming upper hand and forearm with his opposite arm.	2.2.1 Arm extension is discontinued because it is no longer necessary. The upper hand and forearm protects the student from possible injury.	2.3.1 This provides more protection than method #1, although it may be more conspicuous.
2.1.2 The student turns his upper body slightly toward the opening and walks across until contacting the opposite side and resumes trailing.	2.2.2 This is done to ensure contacting the opposite side, and trailing helps in obtaining a line of travel to the desired objective.	2.3.2 The student must recognize slight directional changes to maintain his orientation.

GENERAL OBSERVATIONS

- Upon detecting the opening through trailing, the student may wish to discontinue arm extension, estimate the width of the opening while traversing the doorway, and resume proper trailing.
- Projection of a straight line may be facilitated by taking a line of direction from the wall while trailing, to expedite crossing of the opening.
- In congested doorways, the student may discontinue arm extension, simultaneously assuming upper hand and forearm with the opposite arm, and may then estimate the width of the opening while moving in a semi-circular pattern to avoid the congestion. The student resumes proper trailing after traversing the doorway.
- The student should be aware of pedestrian traffic entering and/or exiting an opening and should pause before traversing the opening until such traffic diminishes.
- Trailing too heavily may result in a tendency to veer into an opening once it is encountered.
- The student may receive auditory and/or temperature clues as an indication that he is at an opening.
- Older persons and students with orthopedic problems may prefer the second method since it provides greater security.
- If the student does not contact the opposite door jamb within two steps using the basic method, he should implement method #2.

E. Direction Taking

PURPOSE: ■ To enable the student to establish a straight line of travel.

1. PERPENDICULAR ALIGNMENT

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The student positions two or more symmetrical body parts against an object.	1.2.1 This assures that the student is aligned correctly for forward projection into the environment.	1.3.1 Curved or irregular surfaces should be avoided. The student should choose objects whose line, if projected, would be perpendicular to the desired line of travel.

1.1.2 The student projects a line of travel in a straight line drawn from his midline, running perpendicular from the object used for alignment.	**1.2.2** The combination of tactile utilization and cognitive projection from the body midline facilitates a straight line movement in the desired line of travel.	**1.3.2** An adventitiously blind student may aided by the use of visual imagery.

2. PARALLEL ALIGNMENT

2.1 Procedure	2.2 Rationale	2.3 Observations
2.1.1 The student positions himself laterally to an object or sound.	**2.2.1** This assures that the student is aligned correctly for forward projection into the environment.	**2.3.1** Curved or irregular surfaces should be voided. The student should choose objects wh lines, if projected, would be parallel to desired line of travel.
2.1.2 The student projects a line of travel in a straight line drawn from his midline, running parallel with the object or sound used for alignment.	**2.2.2** Tactile and/or auditory utilization along with mental projection from the body midline facilitates a straight line movement in the desired line of travel.	**2.3.2** An adventitiously blinded student may aided by the use of visual imagery.

GENERAL OBSERVATIONS

■ PRACTICE AS OFTEN AS NEEDED.

■ Perpendicular alignment may be referred to as "squaring off."

■ Promotion of a straight line of travel facilitates safety in that the student may avoid veering into potential hazards.

■ For parallel direction taking, the student may trail the object for a short length to assure parallel alignment.

■ In utilizing alignment procedures for an open doorway the student may align his heels against the door threshhold or his hands against the sides of the doorway.

■ Proper alignment procedures facilitate sy tematic search patterns and the establishment object-to-object relationships.

■ Direction taking skills are used in stre crossing procedures when analyzing traf sounds.

F. Search Patterns

PURPOSE: ■ To enable the student to acquaint himself systematically with a particular environment.

1. PERIMETER METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The student establishes a focal point.	**1.2.1** This establishes a point of reference to which other things (objects, areas, etc.) can be related. This also assures that the student will recognize when he has returned to the starting point.	**1.3.1** The door is usually the most logical foc point when examining the perimeter of a room. The object chosen as the focal point should b fixed and permanent. The student may assign a directional or nume ical time value to the focal point (usually 12:00 6:00) and corresponding time values to objec encountered during the exploration.

1.1.2 Through a series of movements of body parts or the entire body, the student systematically trails the perimeter of the area, noting the position and relationship of objects encountered.	**1.2.2** This provides the student with information about the shape, size, and possible contents of the object or area being explored.	**1.3.2** The student may trail in a clockwise or counter-clockwise directon. If the entire body motion is required (e.g. while investigating a room), protective techniques should be used. Trailing in a clockwise direction is necessary when assigning time values to the focal point and objects encountered during exploration.
1.1.3 The student returns to the focal point.	**1.2.3** This assures that the student has examined the entire perimeter.	**1.3.3** As a means of testing the student's knowledge of the location of objects encountered, the instructor may ask him to point to the objects or give their time values.

2. GRIDLINE METHOD

2.1 Procedure	**2.2 Rationale**	**2.3 Observations**
2.1.1 Through a series of movements of body parts or the entire body the student trails to a corner of the area that he intends to explore.	**2.2.1** This establishes a reference point to which the student can relate other things in the area. This permits complete investigation of the area without backtracking.	**2.3.1** The corner used for initiating exploration may be a matter of preference or may be dictated by environmental circumstances.
2.1.2 The student, through a series of movements of body parts or the entire body, then moves in a straight line to the opposite side of the perimeter, crossing the area within the perimeter.	**2.2.2** This enables the student to examine systematically the contents of one section of the area while maintaining his orientation.	**2.3.2** The ability to maintain a straight line of travel is a prerequisite to proper execution of this procedure. The student should examine and take note of relevant objects in his path.
2.1.3 The student trails this side a short distance.	**2.2.3** This eliminates retracing steps, and expands the student's movement so that the entire area will be explored.	**2.3.3** The actual distance trailed may depend upon environmental circumstances.
2.1.4 The student returns in a straight line to the original side of the perimeter.	**2.2.4** This provides the student with information regarding the content of the area being explored.	**2.3.4** The ability to maintain a straight line of travel is a prerequisite to proper execution of this procedure.
2.1.5 The student repeats procedures 2.1.2, 2.1.3, and 2.1.4 until the entire area has been explored.	**2.2.5** This assures that the student will examine the entire area.	**2.3.5** This provides a systematic method for exploration of the entire area.

GENERAL OBSERVATIONS

- The content of the area may alter the student's straight line movements.
- Upon completion of the perimeter method, the student may employ an ever increasing or decreasing pattern of movement parallel to the original line of movement as a means of exploring the area or object in greater detail.
- The gridline method aids the student in establishing object-to-object relationships.
- Upon completion of the perimeter method, the student may then employ the gridline method as a means of exploring the area or object in

greater detail. In this case it is important to determine the relationship between the focal point used in the perimeter method and the corner used in the gridline method.

- The area or object may be easier to explore if it is divided into units, especially along natural lines of division; one helpful way may be to divide the area into what appears to be a braille cell.
- The student need only familiarize himself to the extent his usage of the object or area requires.
- A teaching method may be to allow the student to explore an area prior to introducing search patterns, then question him on the contents as a means of stressing what was overlooked and the effectiveness of search patterns.
- Search patterns may be used as a means of locating dropped objects.
- When searching with the gridline method on a surface which might have objects, these precautions should be taken: table against wall—trail towards wall only; circular table—trail towards center in a spoke pattern; table not against wall—trail only away from body. Light touch and slow movement are essential at all times.
- Protective techniques should be used selec tively with these skills.
- Compass directions may be useful in perform ing these skills.
- The student may return to the focal point a any time he becomes disoriented to reestablisl orientation.
- In some instances because of obstacles alon the perimeter, it may be necessary for the stu dent to trail around the object or to use an ex tended trailing arm.
- Search patterns should be transferable in an environment.

G. Dropped Objects (Special Lesson)

PURPOSE: ■ The use of the dropped object technique provides the student with maximum safety and efficiency and facilitates a systematic search for objects.

1. BASIC METHOD

1.1 Procedure	1.2 Rationale	1.3 Observations
1.1.1 The student stops immediately after the object is dropped.	**1.2.1** Stopping immediately helps the student to localize on the sound of the object.	**1.3.1** The student should note the position of his hand at this point, as this could provide a clue to the approximate location of the object. This step is highly important for objects dropped on carpet or grass.
1.1.2 The student localizes on the sound of the object and faces in that direction.	**1.2.2** This orients the student to the object and positions him to move towards it.	**1.3.2** Failure to localize correctly may result in searching the wrong vicinity. The student should not attempt to face the direction of the object or move towards it until it has stopped.
1.1.3 The student walks toward the object, slightly underestimating its distance.	**1.2.3** This is to avoid stepping on or passing over the object.	**1.3.3** Protective techniques should be employed when walking towards the object.

1.1.4 The student bends at the knees while employing upper body protection.	**1.2.4** Bending at the knees facilitates maintenance of balance. Employing upper body protection gives maximum protection.	**1.3.4** The most common protection technique used here is vertical upper [illegible] maximum protection of the Common faults are ben failing to use proper protec searching for the object the one or both knees. Protective techniques ar searching for the object.
1.1.5 The student employs circular and/or grid-line search patterns to locate the object.	**1.2.5** The student employs systematic search patterns to aid in location of the object.	**1.3.5** The student should b terns from the point where hi the ground. When employing the cir the student should begin w gradually become larger; t should be employed for mor If the student does not loc area he should search to the moving another step forward

end with

PAGE 35

GENERAL OBSERVATIONS

- For searching on smooth surfaces, a flat palm should be employed to facilitate location of small objects such as coins.
- Searching should be done slowly to avoid passing over the object or knocking it out of reach.
- For teaching this skill, a variety of objects and surfaces should be used.
- Initially, instructor should drop the objects to test the student's sound localization; after this the student should drop the objects himself to more closely simulate real-life situations.
- It is vital that the student maintain his orientation while performing this task.
- The instructor should begin by dropping the object in front of and fairly close to the student. He should then expand this skill by varying the distance and position of the dropped object in relation to the student, finally having the student drop the object while in travel.
- When searching for a dropped object in the grass, the student should cup hand and use light contact with the fingertips while using a slow movement in his search pattern.
- The instructor may use a table top to demonstrate this technique to students who have balance problems.
- Student may use the cane for the location of dropped objects (e.g. student may employ a "fan" pattern, keeping the cane flat on the surface).

APPENDIX

Orientation and Mobility Terms

ARC—The pattern that the cane tip makes when touch technique is being used.

AUDITION—The process of relating to or experiencing through hearing.

AUDITORY—Related to or experienced through the sense of hearing.

BLOCK—An area, usually immediately bordered by four streets.

—The distance between two streets.

BODY IMAGE—A mental picture or conception of the physical parts of a person and their relationships to each other.

BOULEVARD—The area between a sidewalk and the parallel street.

—A broad, often landscaped thoroughfare.

—A landscaped area between the two sides of a street.

CLEARING—The process of confirming the safety of an area either with a sweep of the cane tip on the ground or with a sweep of the hand on the surface.

CLUE—Any sound, odor, temperature, tactile or visual stimulus that affects the senses and can readily be converted in determining one's position or a line of direction.

CONCEPT—An idea or general notion about something.

—Mental mapping of percepts.

CROSSING—The process of moving from one corner of an intersection to another, or from one side of an object to an opposite side.

CUE—Any sound, odor, temperature, tactile or visual stimulus affecting the senses which will elicit an immediate or automatic response.

DIRECTION—A series of points in one's environment according to a generalized rule along which one may move or be aimed to move along.

DIRECTION TAKING—The act of getting a line course from an object or sound to facilitate traveling in a straight line towards an objective.

DOMINANT CLUE—Of the many clues that are present, the one that best fulfills all the informational needs at that moment.

DROP OFF—An assigned trip in which the student is disoriented and then allowed to reorient himself and locate a designated objective.

—Any sharp decline.

ENVIRONMENTAL AWARENESS—Being alert to the clues and cues which may be found in an area or situation.

—The selective association of existing pertinent information.

FAMILIARIZATION—The process of learning the placement, arrangement, and relationship within an area.

FOCAL POINT—The origin of the numbering system (indoor or outdoor).

—Primary landmark the student uses for orientation or re-orientation.

GAIT—A manner or rate of walking.

GRIDWORK—The patterning of streets.

—A system of definite, imaginary or projected lines which is used to section off an area for the purpose of patterning.

IMBALANCED ARC—The pattern created when the arc of the cane tip is wider on one side than on the other.

INTERSECTION—A place where two or more streets meet and/or cross.

INVERTED ARC—The pattern made when the tip of the cane makes contact with the ground at any point other than in front of the feet or at the end points.

IRREGULAR INTERSECTION—Any intersection which varies from a straight + crossing.

KINESTHETIC SENSE—Knowledge of the movement and position of the body.

—Sensory experience derived from human movement.

LANDMARK—Any familiar object, sound, odor, temperature or tactual clue that is easily recognized and that has a known location in the environment.

LINE OF DIRECTION—The course along which a person is aimed to move.

LINE OF TRAVEL—The course along which a person is moving.

MASKING SOUND—A blocking or distorting sound.

MOBILITY—The capacity, the readiness and the facility to move.

—The ability to move within one's environment.

MODIFIED HAND AND FOREARM—The positioning of the hand and forearm in a horizontal position in front of the body at about waist height, six to eight inches away from the body, with the palm forward, fingers extended, together and relaxed.

NAVIGATION—The art or practice of getting about.

—The act of evaluating known facts in order to facilitate efficient movement or mobility.

NUMBERING SYSTEMS—The way and patterning of streets and addresses within a city or area.

OBJECT PERCEPTION—The ability to perceive the location of objects by sound.

OLFACTORY—Relating to or experienced through the sense of smell.

ORIENTATION—The process of utilizing the remaining senses in establishing one's position and relationship to all other significant objects in one's environment.

—Collection and organization of information concerning the environment and one's relationship to it.

PARKWAY—An area between a sidewalk and the curb.

—A broad landscaped thoroughfare.

PARTIALLY SIGHTED—Having a visual acuity of 20/70 or less in the better eye after best possible correction, and being able to use residual vision as the principal channel of learning.

—A person who is at least able to count fingers.

POINT OF REFERENCE—A determined fixed point within an environment which is used in relation or connection with other points within the same environment.

PRE-CANE SKILLS—Those skills or techniques which are taught prior to instruction of the use of the cane.

PUBLIC TRANSPORTATION—Any form of conveyance or travel which is accessible to all persons.

RECOVERY—The process of reorienting oneself to the desired position.

—The process of regaining proper orientation in the environment.

RUN—The term used to denote a course or route mapped out and followed to a given point or objective.

SAFETY ISLAND—An area (usually raised) within a roadway from which traffic is excluded.

SEARCH PATTERN—A systematic approach to locating or determining the position of an object or landmark.

SELECTIVITY—The ability to choose those techniques or clues which will facilitate the desired end.

SELF-FAMILIARIZATION—The ability to acquaint oneself with a new environment in a systematic fashion.

SENSORY TRAINING—Learning to utilize the remaining senses to the optimum.

SHORELINE—The border or edge of a sidewalk or grassline.

SOUND DIFFERENTIATION—The ability to distinguish between different useful sounds.

SOUND LOCALIZATION—To determine the exact bearing or line of direction of the source of a sound.

SQUARING OFF—The act of aligning and positioning one's body in relation to an object for the purpose of getting a line of direction, usually perpendicular to the object, and establishing a definite position in the environment.

TACTUAL—Related to or experienced through the sense of touch.

TRAILING—The act of using the fingers to follow a surface for any or all of the following reasons:

—To determine one's position in space.

—To locate a specific objective.

—To get a parallel line of travel.

TREE LAWN AREA—The area between a sidewalk and the parallel street or curb.

UPPER HAND AND FOREARM—The positioning of the hand and forearm in a horizontal position in front of the body at shoulder height, with the palm forward, fingers extended, together and relaxed.

UPPER MODIFIED HAND AND FOREARM—The positioning of the hand and forearm in a vertical position in front of the face with the palm rotated forward, fingers extended, together and relaxed.

VEERING—A change in direction or course.

—Drifting away from the desired line of travel.

WU-TANG®